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Finanční analýza vybrané firmy

Financial Analysis of the Selected Company

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3. Financial Characteristics of the Selected Company
4. Financial Analysis of the Selected Company
5. Conclusion

Bibliography
List of Abbreviations
Declaration of Utilisation of Results from the Bachelor Thesis
List of Annexes
Annexes

References:

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Content

1 Introduction

The aim of the thesis is to analyze and evaluate financial performance of JD.com based on annual reports from 2015-2019. In the e-commerce industry, JD.com is one of the dominant player in the Chinese market. Meanwhile, for product life cycle, JD.com is in the period of growth. So, the analysis will help to clear the survival environment and sustainable operating status of JD.com and reflect the financial position and development trend. It will provide information for improvement of financial management and help to gain competitive advantage in industries. Also, it can provide model basis for other transformation enterprises.

This bachelor thesis is divided into 5 parts:

Chapter 1 is introduction which explains the aim and structure of the thesis briefly. It also illustrates the significance and benefits to financial analysis of JD.com.

Chapter 2 focuses on description of financial analysis methods. Firstly, we introduce the balance sheet, income statement and cash flow statement in details, which is the source of the calculation. Then we introduce definition of the horizontal and vertical analysis and also the main differences between them. The core methodologies are financial ratios. We will mainly introduce the formulas and use of the ratio, which includes profitability ratios, activity ratios, liquidity ratios, solvency ratios and market value ratios. Each ratio, we selects the widely used index to explain. Last, we will introduce the calculation procedure of the pyramidal decompositions. We simply focuses on the decompositions of ROE.

Chapter 3 will introduce financial characters of JD.com in several aspects covering the profile and the development history. Last, to clear competitive advantages and survive in the market, we will explain enterprise strength and analyze market competition.

Chapter 4 is the main part of the thesis. In this part, we use horizontal and vertical common-size analysis to identify the company's trends and differences. Then we calculate ratios to asses financial health of the company from financial data and market data, which mainly evaluate JD.com's profitability, efficiency in activity, liquidity, solvency and market value. Last, we use pyramidal decompositions to see how component ratios change and contribute to company, which covers the effect of the net profit margin, assets turnover and financial leverage.

Chapter 5 will summarize the results from whole financial analysis from cahpter3 and chapter4. According to conclusion of the analysis, we can make suggestions for further follow-up works, which benefits the long-run business of JD.com.

2 Description of Financial Analysis Methods

Financial analysis evaluates financial health of the company by using historical data of the company. In this chapter, we will show details of financial statements and introduce three methods to measure company's performance. These are common-size analysis, financial ratios, and pyramidal decompositions.

2.1 Financial Statements

Financial statements provide the information for analysis. They reflect the company's transactions and efficiency, and then analsts can figure the measures to help company gain better financial situation in the future. The budget unit's fund and profit status in a certain period, including its type, format, and reporting requirements are all required to report by companies regularly.

In general, there are three financial statements commonly used in analysis: balance sheet, income statement and cash flow statement.

2.1.1 Balance sheet

The balance sheet is a snapshot of a business at a given date. It refects the company's financial position or a statement of financial condition. The balance sheet shows the company's total assets, liabilities and quity. The fundamental accounting equation is illustrated as:

$$Assets = Liabilities + Equity \tag{2.1}$$

Table 2.1 shows the details of balance sheet. The balance sheet is divided into two sides. The left side shows all of the company's assets. On the right side, it shows the company's liabilities and shareholders' equity.

Table 2.1 Consolidated Balance Sheet

Current Assets	**Equity**
Cash and cash equivalent	Share capital
Short-term investment	Retained earnings
Account receivable	**Current liabilities**
Inventories	Short-term Debt
Prepayments and other current assets	Accounts Payable
Non-current assets	Taxes payable
Tangible assets	Other current liabilities
Intangible assets	**Non-current liabilities**
Financial investment	Long-term debt
Other non-current assets	Bonds payable
	Other non-current liabilities

Source: https://courses.corporatefinanceinstitute.com/

Assets are used to operate company's business. It can be subdivided into current assets and non-current assets. For current assets, it is consumed within one year or less, such as cash and cash equivalents, accounts receivable, inventories and prepaid expenses. Cash is the most liquid of all assets. Accounts receivable includes the balance of all sales of revenue still on credit. Inventory includes amounts for raw materials, work-in-progress goods and finished goods. For non-current assets, it is more than one year. It includes plant, property and equipment, intangibles assets and long-term investment. Property, plant and equipment capture the ccompany's tangible fixed assets. And identified tangible assets includes patents and licenses.

On the other side, the balance sheet displays the companies liabilities and shareholder's equity. Liabilities are obligations resulting from past transactions requiring payment by conveyance of assets or the rendering of future service. In general, liabilities are classified into current liabilities and long-term liabilities. Current liabilities are debts and liabilities that is less than one year. It includes short-term debt, account payable,taxes payable and other current liabilities. While non-current liabilities include loans that company doesn't have to pay back within a year and bonds that the company has been issued. There are long-term debt, bonds payable and other non-current liabilities.

Owners' equity is the ownership of the enterprise investor. It concludes share capital and retained earnings. Share capital is the value that shareholders have invested in the company when a company is first formed. Retained earnings is the total amount of net income the company decides to keep.

2.1.2 Income statement

Income statement illustrates total the amount of profit achieved by a company during financial years. Also, it reflects the company's operational activity. It shows revenues and earnings during a specific period, the expenses and income or loss in that period. Mathematically, net income is calculated as:

$$Revenue\ and\ gains - Loss\ and\ expenses = Net\ income \quad (2.2)$$

The items of income statements may differ between different industires. Table 2.2 shows the items that commonly seen in income statement.

Table 2.2 An example Income Statement

Total Revenue
- Cost of revenue
= Gross profit
- Selling and administrative expenses
- Depreciation
- Other operating expenses
= Earnings before interest and taxes
- Interest expenses
= Earnings Before Tax
- Income Tax
= Net Income

Source: https://courses.corporatefinanceinstitute.com/

Through the components, revenue refers to the company's revenue from sales or services. It usually represents both cash and credit sales. Cost of goods sold refers to the direct cost related to selling product. Direct costs can include labor, parts, materials and an allocation of other expenses such as depreciation. Gross profit is computed as revenue minus cost of goods. Operating expenses are day-to-day expenses from running a firm. It includes selling and administrative expenses and depreciation. EBIT represents earnings from business operations and stands for earnings before interest and tax. Interest expenses is common for a company, which is used for differing from EBIT and EBT. Other expenses is different to industries. It includes such as technology, research and development. Finally, net income is calculated by minmus income taxes from EBT. It indicates the profitability of the firm and is often used as a benchmark to determine dividend payments.

2.1.3 Cash flow statement

[1]*The cash flow statement is the source of cash to the firm from its activities and usage of these cash flows during a period. The cash flow statement explains the differences between beginning and ending balance of cash of a company, summarizes the information about cash inflows and cash outflows during a period.* It shows the detailed summary of cash that company receives from its operation and records the use of cash in three key categories: operating activity, investing activity and financing activity.

Cash flow from operating activity involves all inflows and outflows related to the day-to-day business such as sales of goods and purchases of materials. Generally, it starts with net income plus depreciation and amortization. Depreciation covers intangible assets such as buildings and machines. While amortization includes patents, goodwill and so on.

Cash flow from investing activity is related to changes in capital expenditure and long-term investment. In general, capital expenditure refers to the purchase of property, plant and equipment. For example, it may conclude purchas of machine for production industries , or the purchase of new land and property to logistics of the company, especially in growing period

[1] Source: Dluhosova (2014, P55)

and expension of the company. Long-term investment includes debt and equity instruments of other companies. These investments are important for a company's long-run business and are cash outflows.

Cash flow from financial activity focuses on transactions. It reports any issuance of stock and bonds of the company. There are two ways to finance operations. The issuance of debt and equity are cash inflow. Because companies borrow money from investors by issuing bonds. Company can accelerates the speed of expansion by generating more cash. For insuance of equity, companies should pay dividends to shareholders, thus share earnings with investors. But issurance of equity also increases the cash. So, like debt, it is also a cash inflow.

Table 2.3 An example of Cash FlowStatement

Iterms
Net earnings
Depreciation and amortization
Changes in working capital
Operating cash flow
Investment in property and equipment
Investing cash flow
Debt inssuance
Equity issuance
Financing cash flow
Total cash flow

Source: https://courses.corporatefinanceinstitute.com/

2.2 Common-size analysis

Common-size analysis is comparison between companies and across time. It allows investors to identify the changes and trends. Any considerable changes in financial items can influence the decision of investors. For example, an increase of revenue in assets indicates that the company is implementing an expansion, which is attractive to investors. There are two forms of analysis: horizontal common-size analysis and vertical common-size analysis.

2.2.1 Horizontal common-size analysis

Examining trends over time by calculating percentage increases or decreases relative to a base year is called horizontal analysis. When applying this method, we should consider both absolute and percentage change in an item.

$$Absolute\ change = a_1 - a_0 \tag{2.3}$$

$$Relative\ change = \frac{a_1 - a_0}{a_0} \tag{2.4}$$

In the formula, a_0 is the amount of the item in the base year, a_1 is the amount of the item in the comparison year.

In some cases, a large percentage change from smaller dollar can be less significant than a similar percentage change from a larger dollar item. Usually, change is measured based on the early amount and the earliest period is the based period. Through horizontal comparison in different periods, we can find the weak link of the analysis object and infer the improvement methods behind.

2.2.2 Vertical common-size analysis

Vertical common-size analysis is to evaluate changes of the elements of selected benchmark during a single period. It helps us to understand how each item moves. Generally, benchmarks are total revenues, total assets, total liabilities, etc. For balance sheet, the elements are computed as percentage of total assets and total liabilities. And for income statement, the elements are calculated as percentage of gross sales.

Vertical analysis has various advantages. It simplifies the correlation between single items as they are expressed as percentage. The percentage can be used by a company’s management to set goals and threshold limits. It solves the problems that it is ineffective to use actual dollar amounts while analyzing entire industries. It is also highly effective while comparing two companies operating in the same industry but with different sizes. It enables accountants to create common-sized accounts to compare and contrast amounts of different magnitudes in an efficient manner.

2.2.3 Vertical vs. Horizontal analysis

Vertical and horizontal analysis are both used for financial statements. They have differences in three aspects.

In terms of meanings, horizontal analysis refers to the comparison of the financial statement for two or more period. While, vertical analysis refers to proportional evaluation of the financial statement. For purpose, horizontal analysis aims to evaluate the trend and changes in an item over time, while vertical analysis aims to evaluate the proportion of iterms to the benchmark during a single accounting year. For expression, in horizontal analysis, absolute and relative changes of elements are often calculated. While in vertical analysis, Each item of financial statement is calculated as percentages of a fixed items, which is selected as benchmark.

2.3 Financial ratios analysis

Financial ratios are useful tools that compare relationships between financial statement account. They are the primary analytical tool of the analyst and used to analyze company's liquidity, leverage, growth, margins, profitability and so on. Ratios analysis will support managers to evaluate a company's performance and make comparative judgements.

In this chapter, we will introduce four categories of financial ratios: profitability ratios, solvency ratios, liquidity ratios and activity ratios.

2.3.1 Profitability ratios

Profitability ratios demonstrates the success of the company in generating profit. They show a company's ability to use its assets to create profit and value to shareholders. A high ratio usually means that the business of the company is performing well and profitability is good. These ratios are what investors and companies usually care about.

All the ratios can be classified into margin ratios and return ratios. Margin ratios represent the company's ability to convert sales into profit. While return ratios represent company's ability to generate returns to its shareholders. In this part, we will introduce operating profit margin, net profit margin, return on assets and return on equity.

Operating profit margin (OPM) shows the value of the sales which is left over after operating expenses. By using this ratio, company can measure the ability and effectiveness in generating operating profit. If the operating profit margin is high, it means that companies does well in improve revenus and cost control. It can pay for costs and interest more easily. Especially high OPM helps companies to survive when economic is going through the hard time. In general, a good management of operating cost can improve the profitability of a corporate. So, we can also use this ratio to analysis the effectiveness of the company's management. OPM can be calculated as

$$Operating\ margin = \frac{Earnings\ before\ interest\ and\ tax\ (EBIT)}{Total\ Revenues} \tag{2.5}$$

EBIT stands for earnings before interest and tax. It can computed by company's revenue, minus its operating expenses. It is often considered the equivalent of net operating income.

Net profit margin (NPM) measures the amount of net income earned for each dollar of sales. It is the most often mentioned when discussing the company's profit. It shows the profitability of the company after deducting all expenses, including operating expenses, taxes and interest payment. Higher ratio indicates the higher profitability. On the contrary, lower the ratio, higher the risk of net loss. The net profit margin may be computed as follows:

$$Net\ profit\ margin = \frac{Earnings\ after\ tax\ (EAT)}{Total\ revenues} \tag{2.6}$$

EAT stands for earnings after tax. Compared with EBIT, it minus expenses including tax and interest.

Return on assets (ROA) is used to measure the ability to operating profit through the management of assets. ROA is an important ratio to assess a company's profitability. It also measures the intensity of a business. Different industries have different ROA. The company is more likely to be assets-intensive with low ROA. Because assets-intensive companies need to put more on equipment and property. Its development relys on the investment on assets. The formula can be written as:

$$Return\ on\ assets = \frac{Earnings\ before\ interest\ and\ tax\ (EBIT)}{Total\ assets} \tag{2.7}$$

Generally, higher ROA indicates the better ability and effectiveness in company's asset utilization, which shows that the firm has achieved good results in terms of increasing revenue and saving funds.

Return on equity (ROE) is illustrated as the percentage of net income relative to stockholder's equity. Stock analysts and investors usually care about it. It shows the company's ability to generate profits through equity investment. High ROE indicates that company is doing good in generating cash internally and the company is more rely on equity financing instead of debt financing. But there exsit the special case that the company can earn more benefit because large assets base. Under this situation, the company can improve ROE without increasing equity. Except for return on assets, debt interest rates and corporate structure also influence ROE. The ratio is computed as follows:

$$Return\ on\ equity = \frac{Earning\ after\ tax\ (EAT)}{Equity} \tag{2.8}$$

2.3.2 Activity ratios

[2] *Activity ratios are also known as a assets utilization ratios or operating efficiency ratios. This category is intended to measure how well company manages various activities and particularly how efficiency it manages its assets.* Usually high capital turnover shows the good efficiency in assets management.

We will introduce four main operating ratios: total asset turnover, days sales outstanding, accounts receivable turnover and merchandise inventory turnover.

Total Assets Turnover (TAT) measures the efficiency of enterprise utilization. It shows the company's ability to generate revenue through current assets and non-current assets. High ratio indicates high turnover of assets, reflecting the stronger sales capacity. On the contrary, lower ratio shows that efficiency of using assets is not good. Company should consider the operating quality and management.

The rate is basically defined as:

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[2] Source: Dluhosova (2014, P75)

$$Total\ Assets\ Turnover = \frac{Revenues}{Total\ Assets} \tag{2.9}$$

Days Sales Outstanding (DSO), measures the period to collect the corporate's accounts receivables. It is also called average collection period and days receivables. Lower days sales outstanding means less days to collect the receivables, which is good for activity. On the contrary, a high DSO number shows that a company takes longer time in collecting receivables. Company may sell the products on credit and have relative low ability to turn credit sales into cash. Genrally, small scale business will care more about the DSO. Because it relies on quick receivables to make payments fro operations. High DSO may cause cash flow peoblems to small business. DSO is calculated as:

$$Days\ sales\ outstanding = \frac{Accounts\ Receivable}{Revenues} \cdot 360 \tag{2.10}$$

Accounts Receivable Turnover (ART) ratio measures how well the company manages its accounts receivables. Usually, ART has the opposite trend with DSO. Because it calculates the times to turn accounts receivables into cash. A high accounts receivable turnover shows that the speed to convert receivables to cash is high. On the contrary, if the ability to convert receivables is not good as it should, the turnover will relatively low. ART is computed as follows:

$$Accounts\ Receivable\ Turnover = \frac{Revenues}{Accounts\ receivable} \tag{2.11}$$

Merchandise Inventory Turnover (IT) ratio is the ratio of cost of goods sold to average inventory. The ratio is used to measure the liquidity of inventory and whether the inventory capital is reasonable. This will influence the company's strategy on inventory management, supply chain and pricing. A rising trend shows that company has an improving efficiency in managing inventory. On the contrary, A decreasing trend shows that more goods occupied. But we should attention that the company will face risks if turnover is much higher than standard level. Because the company may can't promise the supply for shortages. Inventory turnover is basically calculated as:

$$Merchandise\ Inventory\ Turnover = \frac{Cost\ of\ goods\ sold}{Average\ inventory} \tag{2.12}$$

Usually, cost of goods sold can be called as “cost of sales”. It is the direct costs related to goods production, which covers the cost of the materaials and labor directly used to produce the good.

To make comparison with profitability ratios and activity ratios, [3]*Activity ratios and profitability ratios are both fundamental analytical tools that help investors evaluate different facets of a company's fiscal strength. Profitability ratios depict a company's profit generation, while efficiency ratios measure how well a company utilizes its resources to generate those profits.*

2.3.4 Liquidity ratios

Liquidity measure the company’s ability to convert assets into cash quickly and cheaply. Liquidity ratios shows a company’s ability to meet liabilities on time and its margin of safety. It is necessary for a company to have enough cash balance to provide its safe and liquidity needs. usually, company with higher liquidity ratios means it has better liquity and can pay its debt more easily. The three liquidity ratios are the current ratio, the quick ratio and the operating cash flow ratio.

The current ratio is expressed as current assets to current liabilities. So, it mainly evaluates the company’s liquidity and ability to pay current liabilities. It is used to quantity the ability of a company's current assets to become cash for debt repayment before short-term debts mature. Generally, higher ratio means company has better liquidity and more safety in paying current debt. On the contrary, lower current ratio means company has problems in paying short-term debt and it should improve its liquidity. The current ratio can be defined as:

$$Current\ ratio = \frac{Current\ Assets}{Current\ Liabilities} \tag{2.13}$$

The quick ratio also evaluates the company’s ability to pay its short-term liabilities. But compared to current ratio, cash inventories and prepaid expenses are not included in the numerator. For one thing, the period to turn inventories into cash is relative high. For another,

[3] Source: https://www.investopedia.com/terms/a/activityratio.asp

perpaid expenses can not used to pay current liabilities. by having assets that are readily convertible into cash. In general, higher ratio means higher liquity. Especially if ratio is higher than 1, it means that the operation of the company is in good condition for its cash, accounts receivables and market securities are enough for payment of current liabilities. It is computed as:

$$Quick\ ratio = \frac{Current\ assets - Inventories - prepaid\ expenses}{Current\ Liabilities} \tag{2.14}$$

$$Quick\ ratio = \frac{Cash + Accounts\ Recievable + Market\ Securities}{Current\ Liabilities} \tag{2.15}$$

Operating cash flow ratio measures the company's ability to cover short-term debt by operating cash flow. Among the liquidity ratios, operating cash flow ratio is more precise. Compared with quick ratio and current ratio, it uses operating cash flow as numerator. It is better for analyzing operation condition. Generally, lower ratio shows less liquidity and faces problems in gathering cash from operations. Higher ratio indicates that company's core operation is in good condition and financial position is healthy. This is good to investors' expectation. It means the company have more earnings to pay current liabilities. The ratio is computed as :

$$Operating\ cash\ flow\ ratio = \frac{Cash\ flow\ from\ operations}{Current\ Liabilities} \tag{2.16}$$

2.3.3 Solvency ratios

Solvency ratios, also called financial leverage ratios, are often used to determine the corporate's ability to repay short-term and long-term liabilities. Compared with equity, cost of debt is limited to interest payments while cost of equity is variable. Solvency ratios helps managers to forecast solvency and capital structure of the firm in the long run. Company with high solvency ratios may face great challenges and bankruptcy. So, this ratio indicates investors the security of their return. We will introduce three sorts of solvency ratios.

Solvency ratio shows weather the company can pay its long-term obligations. This ratio is often used when meauring a company's creditworthiness by investors and analysts. Different industries have different solvency ratios. In general, a higher ratio illustrates that company is improving its profit and ability to meet short-term obligations. On the contrary, a lower ratio means that the company faces problems and risks in paying total debt. Solvency ratio is defined as follows:

$$Solvency\ ratio = \frac{Net\ income+non-cash\ expenses}{short-term\ liabilities+long-term\ liabilities} \quad (2.17)$$

Debt-to-equity ratio compares a firm's total liabilities to its shareholder's equity. It measures the safety of the creditors of the company. Like debt ratio, a low percentage of the ratio means company more depends on equity and equity management is well. The company's creditor's demands are probably not of great concern to management. On the contrary, a high percentage of the ratio shows that firm may not be able to take on additional liabilities. It can be calculated as:

$$Debt\ to\ equity = \frac{total\ debt(total\ liabilities)}{equity} \quad (2.18)$$

Debt service coverage ratio (DSCR) is expressed as net operating income to total debt service. It evaluates weather companys can earn enough operating income to pay total debt. In general, if DSCR is less than 1, it means negative cash flow and corporate doesn't have enough income to service all the debt. So, the higher the DSCR, the more income to pay off the debt.

$$Debt\ service\ coverage\ ratio = \frac{Net\ operating\ income}{Total\ debt\ service} \quad (2.19)$$

In this formula, total debt service is basically all the debt related payments which a corporate needs to pay. For example interest payments, principle payments and other obligations. On a balance sheet, it includes short-term debt and the current portion of long-term debt. And current portion of long-term debt means the section of a company's balance sheet recording the total amount of long-term debt that will be paid within the current year.

2.3.5 Market value Ratios

Market value ratios measures how much shareholders' returns due to stock price fluctuations or interest distribution. So they are usually watched by investors and managers. By calculating these ratios, investors can decide weather to buy the stocks of selected company. We will introduce book value per share, dividend yield ratio, earnings per share and price-earnings.

Book value per share ratio(BVPS) is a market value ratio that weighs company's total equity to total shares outstanding. By comparing it with market value, investors often use BVPS to measure the stock's value. Also, the can use it to predict the market price of the stock. When a stock is undervaluated, the book value per share will higher than current stock price during the period. There are two methods to increase BVPS. One is to repurchase common stock. The other is to increase assets and reduce liabilities. It can be computed as follows:

$$Book\ value\ per\ share = \frac{Total\ equity - preferred\ equity}{Total\ shares\ outstanding} \tag{2.20}$$

[4]*The book value per share and the market value per share are some of the tools used to evaluate the value of a company's stocks. The market value per share represents the current price of a company's shares, and it is the price that investors are willing to pay for common stocks. The market value is forward-looking and considers a company's earning ability in future periods. As the company's expected growth and profitability increase, the market value per share is expected to increase further.*

On the other hand, book value per share is an accounting-based tool that is calculated using historical costs. Unlike the market value per share, the metric is not forward-looking, and it does not reflect the actual market value of a company's shares.

Dividend yield ratio measures how much dividends common shareholders can receive from the company. It weights cash dividend per share against the stock's market value. The ratio are usually by investors to calculate their benefits from selected stocks. A company with a high dividend yield can pay higher cash dividend to shareholders, which means high return for investment on company. It is computed as:

$$Dividend\ yield\ ratio = \frac{Cash\ dividend\ per\ share}{Market\ value\ per\ share} \tag{2.21}$$

Earnings per share (EPS) ratio mearsuresthe amount of profit based on each share of common stock of the company and is widely used metric for corporate profits. EPS is used to assess company perfotmance, predict future eranings and estimate the value of firms' share.

[4] Source: https://corporatefinanceinstitute.com/

Generally, with higher EPS, company earns more net income. Investors are willing to pay more because of increasing revenue. EPS is calculated as:

$$Earnings\ per\ share = \frac{Net\ income - perferred\ dividends}{End - of - period\ common\ shares\ outstanding} \tag{2.22}$$

Price-earnings ratio looks at the relationship between the stock price and the company's earnings. The ratio is the most watched by investors and stock analysis. For instance, a low P/E ratio indicates that thestock is undervalued. On the contrary, a high P/E ratio may suggest a stock is overvalued and the results exceeds the expectation of investors. Meanwhile, investors will expects more growth of the earnings. It is calculated as:

$$Price - earnings\ ratio = \frac{Market\ value\ per\ share}{Earnings\ per\ share} \tag{2.23}$$

Generally, if company does't earn profit or has negative income, EPS will generally shows zero or negative. The price-earning will be shown as "not applicable" or "N/A".

2.4 Pyramidal decompositions

Pyramidal decompositions measures which aspects can influence it value and its importance to evolution. It makes decompositions of basic ratio to various components. The method is useful for it can decide the degree of importance of component ratios. The fundamental case of pyramidal decomposition is DuPont analysis. In this part, we will take ROE for example.

As we know, ROE is defined as:

$$ROE = \frac{EAT}{Equity} = \frac{EAT}{Revenues} \cdot \frac{Revenues}{Equity}. \tag{2.24}$$

After continuing to make decomposition, we can see

$$ROE = \frac{EAT}{Revenues} \cdot \frac{Revenues}{Total\ Assets} \cdot \frac{Total\ Assets}{Equity} \tag{2.25}$$

This decomposition shows ROE as a function of net profit margin, assets turnover and financial leverage.

Net profit margin is the ratio which is most mentiond in profitability. Increasing revenue and decreasing cost can lead to higher net profit margin, whch has a huge impact on ROE. A high total assets turnover indicates that assets are used efficienctly in generating revenue and it also improve ROE. Financial leverage indicates the safety of creditors. ROE goes up if financial lerage rises. But the company should attention that increasing ROE means creation of disproportionate risks.

3 Financial Characteristics of Selected Company

In this chapter, we will introduce financial characteristics of JD.com, including its profile, development history, enterprise strength and market competiton.

3.1 Profile of JD.com

JD.com is a Chinese e-commerce company headquartered in Beijing, China.[5] *JD.com is China's largest online retailer and its biggest overall retailer. It offers customers the best online shopping experience. The company is a member of the Fortune Global 500.*

JD.com is positioned as a "technology and service enterprise based on supply chain". Currently, JD.com runs various business including retail, digital technology, logistics, technology service, health, insurance, logistics real estate, cloud computing, AI and overseas. Among them, the core business is retail, digital technology, logistics and technical service.

3.2 Development History of JD.com

JD Company was established on June 18,1998. Then later in January 2004, JD.com opened an experimental field for entrepreneurship in the e-commerce field, and JD.com officially launched a new domain name.

In 2008, it began offering general merchandise, transforming the business from an electronic retailer to a full-fledged e-commerce platform. It was on March 30, 2013 that JD.com went decentralized and renamed JD.com, and then changed its logo.

On May 22, 2014, JD Group was listed on the NASDAQ (stock code: JD). The United States also ushered in China's largest IPO in the United States. Also, it is the first large-scale comprehensive e-commerce platform in China that has successfully gone public in the United States. As of May 2014, JD.com had a market value of more than US $ 30 billion and ranked second among Chinese stocks.

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[5] Source: https://corporate.jd.com

In recent years, JD.com develops rapidly. JD launched JD Worldwide, a cross-border e-commerce platform to give Chinese consumers greater access to imported products in 2015. And announce the launch of a new cooperative project "jingteng plan" with tencent.

In 2016, it announced a stratagem alliance with Walmart. Its brand value increased by 37% year-on-year to USD 10.5 billion.

In 2017, Jingdong logistics sub-group was formally established. In 2018, JD.com make strategic cooperation with iQiyi and Google. With Google, JD.com will constantly develop international retail market.

Later in 2019, it released the ISRM intelligent procurement platform. In 2019, the group's net income reached 576.9 billion yuan, with the net profit attributable to common shareholders reaching 12.2 billion yuan, which reaches the highest record.

3.3 Enterprise strength

User experience: "Product, price and service" is the development focus confirmed by JD.com's long-term strategy. Because of cost structure, JD.com sells its products to consumers at high efficiency and low cost. Compared with similar e-commerce websites, JD.com provides products in a larger range of categories, covering electronics, apparel and home furnishings, FMCG, fresh food, home appliances and others. It provides a truly "one stop" shopping experience for Chinese consumers.

Supply chain: JD.com emphasize self-management, and insist on self-built logistics in recent years. The main reason is to drives down supply chain cost and improves efficiency of supply chain by technology. For e-commerce and traditional retailor, the core factor to measure the efficiency of supply chain is inventory turnover. In 2019, inventory turnover of JD.com is 8.5, which is much higher than industry level.

3.4 Market competition

Currently, JD.com's main competitors are Alibaba and Pingduoduo. Alibaba is the world's largest retailor and e-commerce company. Besides, Pinduoduo grows up rapidly in recent years and its influence on JD.com is increasing gradually. The market competition is intense. To clear JD.com's market position , we compare major indicators for e-commerce company.

In terms of GMV, JD.com has broken through the 2 trillion yuan barrier for the first time and accelerates to catch up with Alibaba. But it should attention that the growth speed of Pingduoduo is 113% in 2019, which is much higher than JD.com. In genral, Ali's GMV ranks first among three companies.

In terms of active users, Alibaba has 711 million active users until 2019, which is two times as JD.com. Also, the volume and increasing speed of Pingduoduo are higher than JD.com. If Pingduoduo keeps the growth rate, it is expected to catch up with Alibaba in user scale. In general, JD.com is at disadvantage in active users.

In terms of revenue, JD.com ranks first in 2019. The revenue accouts 52.6% in the sum of the revenue of three companies. Its revenue structure has changed and service capacity has been improved. JD.com is still at advantage comparing to other companies. But it should pay attention that the increasing speed od Pingduoduo is 129.74%, which is as four times as JD.com.

4 Financial Analysis of the Selected Company

The financial analysis formulates assessment of the company's imformation by using historical data and to forecast the future financial position to predict the future of the enterprise to make correct decisions. In this chapter, we will analyze financial performance of JD.com using methods that are introduced in chapter 2.

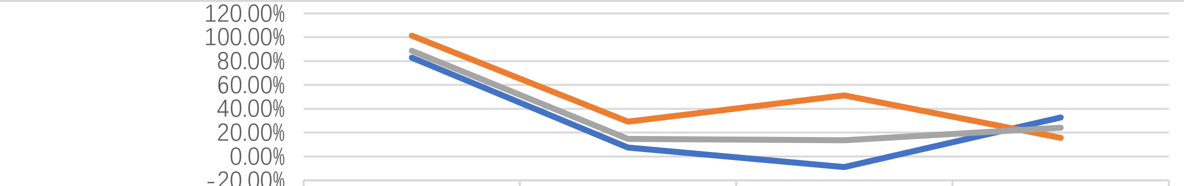
4.1 Common-size analysis of JD.com

The common-size analysis consists of two types. In the following part, both horizontal and vertical common-size analysis will be used to evaluate JD.com.

4.1.1 Horizontal common-size analysis

In this part, we will use relative change of all the data from financial statements to analyze its trends.

Figure 4.1 Horizontal common-size analysis of assets



	2015-2016	2016-2017	2017-2018	2018-2019
Current Assets	82.89%	7.57%	-8.84%	32.65%
Non-current Assets	101.31%	29.16%	51.12%	15.65%
Total Assets	88.64%	14.77%	13.64%	24.17%

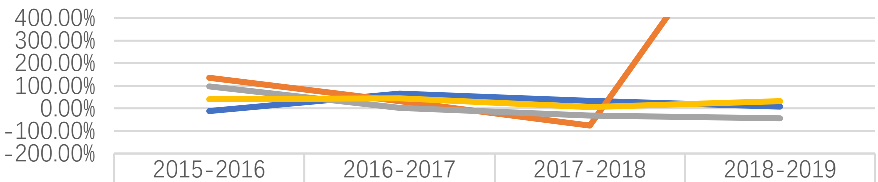
Source: Own calculation

From Figure 4.1, we can see that the overall trend of the components is increasing, which indicates that JD.com has more assets to generate. Total assets rise sharply from 2015-2016 by 88.64%. It is mainly because these two years are the period of rapid expansion of JD.com. It corporates with Tencent and Walmart, which increases investment and scale expansion. Also, This is influenced by the operating model. When the company earns profit, it will put it on development of logistics and equipment, which causes the rising assets. After that, the relative change of total assets declines slightly but still above 0, which mainly due to the rapid increase of non-current assets.

Current assets go up remarkably in 2016 and 2019. The growth speed are 82.89% and 32.65% respectively. But it decreases by 8.84% to 104,856 CNY million in 2018. The change is mainly influenced by short-term investment and cash. The details will illustrate in Figure 4.2.

Like trend of total assets, non-current assets increase remarkably in 2016 by 101.31%. And then the speed of increase goes down but is still above 0. The increase is effected by property and long-term investment a lot. The details of non-current assets will show in Figure 4.3.

Figure 4.2 Horizontal analysis of Current Assets



	2015-2016	2016-2017	2017-2018	2018-2019
Cash and cash equivalents	-11.97%	65.02%	33.38%	7.91%
Short-term investment	135.54%	31.15%	-76.29%	1108.40%
Accounts Recievable	96.99%	1.35%	-32.09%	-44.28%
Inventories	40.74%	44.25%	5.59%	31.57%

Source: Own calculation

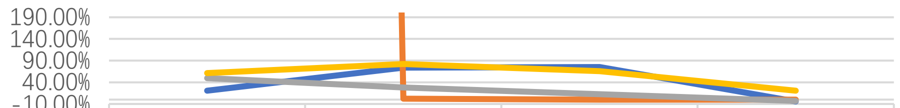
From Figure 4.2, we can observe that in current assets, short-term investment is the most unstable. It increases sharply in 2015. In 2015, JD.com invests several projects, such as Tiantian orchard and Shanghai medicine. The growth speed goes down since 2016 and is negative in 2018 by -76.29%. The main reason is the upgrade of JD finance. JD digital technology has become the parent brand of the whole company. JD.com start promoting early consumption and corporats with technology company, which leads decrease of short-term assets and increase of long-term assets. And after that, it increases dramatically by 1108.4% in 2019.

Cash and cash equivalents decline by 11.97% in 2016 and rise moderately since 2017. In 2017, the growth rate reaches the highest point, which is 65.02% and then the speed goes down. This is mainly due to the continues increasing of revenue. It shows that JD.com is flush with cash, which supports it to invest in supply chain finance.

Accounts receivable rises remarkably from 2015 to 2016 by 96.99%. It reflects the success of Jingdong Baitiao in 2015, which is a internet consumer finance product. It allows customers pay for products with 30 days or by installments. And then it drops by 32.09% since 2018. It indicates that JD.com is trying to convert receivables into cash and raises liquidity of product.

Inventories go up considerably from 2015 to 2017. The growth rates are 40.74% and 44.25%. The increasing speed declines sharply in 2018 to 5.59%, and then it goes up to 31.57%. At the end of 2017, JD.com launches smart supply chain. With the help of AI, it makes retail plan which meets the market and use plans to guide automated inventory management.

Figure 4.3 Horizontal analysis of Non-Current Assets



	2015-2016	2016-2017	2017-2018	2018-2019
Property, equipment and software	20.81%	74.05%	75.24%	-4.26%
Goodwill	22406.90%	1.90%	-0.11%	0.00%
Intangible assets	49.58%	27.76%	12.68%	-3.13%
Long-term investment	61.42%	82.17%	65.36%	20.60%

Source: Own Calculation

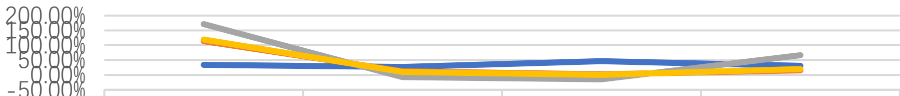
For non-current assets, property, equipment and software rise significantly during 2015-2018. Though it declines by 4.26% in 2019, it is still reach 26,460million. This is mainly due to its logistics project. JD.com adapts self-built logistics systems. Since 2015, JD.com operates 213 large warehouses across the country. As of 2019, JD.com had land use rights in 40 cities in China to build own warehouses.

Also, intangible assets go up considerably from 2015 to 2017. The change rate of intangible assets reaches the 49.85% in 2015. This mainly because strategic cooperation with Tencent, which purchase part of the Tencent's assets and business. And then, the increasing speed goes down gradually. In 2019, the rate reaches the lowest point, which is -3.13%.

The increase in long-term assets has some volatility. Especially from 2015 to 2018, the rises are 61.42%, 82.17% and 65.36% respectively, which due to investment in strategic innovation projects to corporate with technology companies to maintain profit. Especially in 2017, it sets up two joint ventures to provide fintech services with a total investment of $500 million.

It is obviously that goodwill achieves rapid increase in 2016. It mainly because in 2015, JD shut down the Paipai.com for it can’t prevent fakes. So, in 2015, the goodwill is quite low. In 2016, a lot of acquisitions have gone through, such as Yonghui supermarket. After that, it remains stable.

Figure 4.4 Horizontal analysis of Equity and Liabilities



	2015-2016	2016-2017	2017-2018	2018-2019
Equity	34.18%	27.10%	46.65%	30.97%
Current Liabilities	113.83%	12.90%	2.21%	15.85%
Non-current Liabilities	171.38%	-6.92%	-14.47%	66.29%
Total liabilities	119.46%	10.50%	0.51%	20.22%

Source: Own calculation

As we can see from Figure 4.4, equity grows remarkably during last five year. And the speed achieves 46.65% in 2018, which reaches the highest point. In 2018, due to the fierce competition with taobao and pingduoduo, JD.com relys on equity capital to sustain its operations and expand weakly.

Also, the data shows that both current liabilities and non-current liabilities grow sharply in 2016. While current liabilities keep increasing in recent years. Investment in Jingdong's convenience stores and yonghui supermarkets increases the debt. Moreover, due to the expansion of JD.com's scale in the early stage, the staff cost and advertising cost also rise gradually. These factors lead to a slow rise in current liabilities.

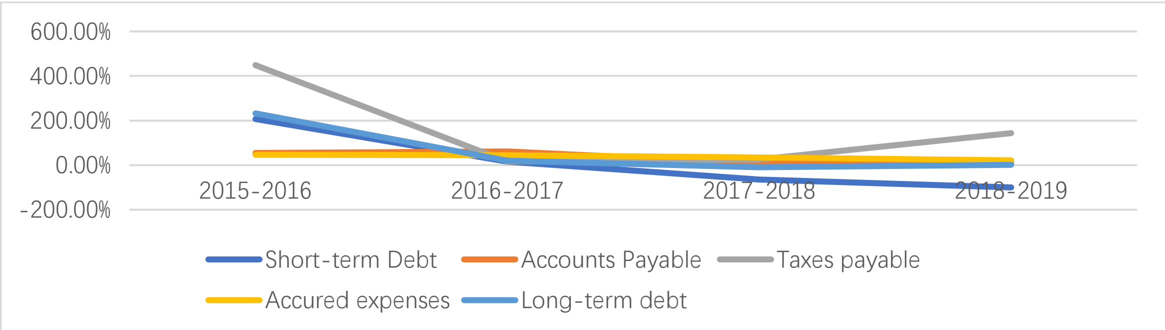
And Non-current liabilities fall slowly from 2017. But in 2019, the growth rate turns to positive from -14.47% to 66.29%. The main reason is that the new retail sector has taken a hit and a large number of stores in the industry were closed or suspended in 2019. So, JD.com adjusts the strategy to invest in order to save other projects from losses.

Table 4.1 Horizontal analysis of Liabilities

	2015-2016	2016-2017	2017-2018	2018-2019
Short-term Debt	206.88%	15.99%	-64.73%	-100.00%
Accounts Payable	54.38%	61.48%	7.60%	13.06%
Taxes payable	448.54%	16.46%	25.53%	144.07%
Accrued expenses	46.46%	43.80%	34.23%	21.50%
Long-term debt	232.21%	19.39%	-9.59%	1.79%

Source: Own calculation

Figure 4.5 Horizontal analysis of Liabilities



Source: Own calculation

To be more specific, we can view table 4.1. It shows obviously that short-term debt rises sharply in 2016 by 206.88%, but since 2018, it goes down dramatically. The growth rate achieves -100% in 2019. Both short-term and long-term debt go up remarkably in 2016. In 2015, Paipai.com shuts down, which causes decreasing of goodwill ,intangible assets and particial investment. Moreover, cost of stock ownership incentive and amortization expenses of assets that are corporated with Tencent rise. These factors cause sharply increase of debt from 2015 to 2016.

The overall trend of accounts payable is increasing. It rises remarkably from 2015 to 2017. The growth rates are 54.38% and 61.48% respectively. Then the growth rate goes down but is still positive. The main reason is that JD.com has strong voice in supply chain. It can set payment cycle when payments are made to suppliers. Between the period of receipt of payments and payment to suppliers and traders, JD.com can use those payments for other purposes to earn profit. On the one hand, it illustrates that JD.com keeps good relationship with the suppliers. On the other hand, it shows that JD.com has huge space in payment cycle in the future.

Also, taxes payable rises considerably deuring last five years. Especially in 2016 and 2019, the growth speed is extremely high, which are 448.54% and 144.07% respectively. Moreover, accrued expenses rise steadily from 2015 but the growth speed goes down.

Long-term debt fluctuates a lot. It increases steeply in 2016 by 232.21%. But then the increasing speed drops gradually. Except for 2017, the long-term debt rises during recent years. As JD.com uses equity investment instead of bank borrowing, the investment term is relatively long. So, long-term debt are often used for financing.

Figure 4.6 Horizontal analysis of income statement

	2015-2016	2016-2017	2017-2018	2018-2019
Total Revenue	42.67%	40.28%	27.51%	24.86%
Cost of revenue	40.25%	39.73%	27.14%	24.34%
Gross profit	60.11%	43.73%	29.79%	28.00%

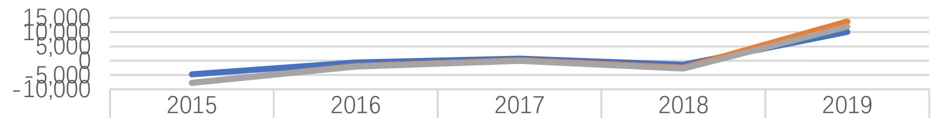
Source: Own calculation

In general, gross profit increases gradually and the speed goes down during last five years. This benefits from two aspects. One is adjustment in category structure. Gross margin of daily consumer goods are high and the sales accout for larger portion. While, consumption of digital products and household appliance declines. The other is growth of commissions and advertising revenues.

As we can see from Figure 4.6, total revenue goes up gradually from 2015-2019. It mainly due to the logistics and continuing rising of active users. Especially in 2019, revenue from logistics was 23.47 billion yuan, which is 89.6% increase than last year. The income from logistics and other services gradually increases in the proportion of the total income, and gradually becomes the profit center of JD.com. Meanwhile, as of September 30, 2019, JD.com has 334.4 million annual active users. The user scale increases steadily and JD.com begins to motivate users in low-tier cities.

The cost of revenue keeps increasing during these five years, but we can find that the growth speed goes down gradually from 2015 to 2019. On the one hand, it is because the control of the purchase cost of proprietary products. On the other hand, traffic acquisition cost accounts a lager portion of cost of revenue. JD.com pushes “JDX plan” and it has achieved the full coverage of Chinese Internet users. It realizes the cost control when maintaining a steady growth in user scale.

Figure 4.7 Horizontal analysis of Income(CNY in million)



	2015	2016	2017	2018	2019
Operating profit	-4,757	-643	731	-1,356	10,055
Earnings Before Tax	-7,756	-1,882	121	-2,374	13,693
Net Income	-7,742	-2,048	-19	-2,801	11,891

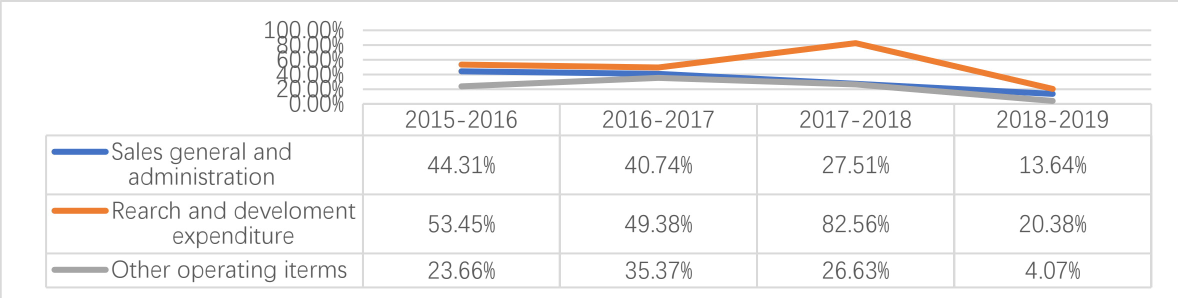
Source: Own calculation

From Figure 4.7, we can pay attention to operating profit, it experiences two votalities and turns negative to positive in 2017 and 2019. In 2017, the main reasons for positive operating profit are sharp increase of revenue and increasing numbers of active users, which rises by 29.1%. But in 2018, it declines sharply from 731million to -1356 million. The reason are conomic slowdown and decreasing growth speed of gross merchandise volume. In 2018, total retail sales of consumer goods go up slowly than before and purchases of non-essential consumer goods fall. Also, active uses decrease constantly due to the fierce competition with other e-commerce companies in 2018. Then in 2019, the profit achieves 10,055 CNY million. This fully reflect JD’s efforts in cost control and supply chain. It relies on dig data to predict the sale in order to make intelligence distribution in advance.

Earnings before tax fluctuates, particularly in last three years. To make it more clearly, we can see the data from P/L statement. The data are 121, -2,374 and 13,693 million. The trendency is similar as the operating profit.

Among all the factors, the most unstable one is net income. It increases steeply from 2015 to 2017. During 2017-2018, net income declines sharply, but later in 2019, it turns to positive and achieves 11,891 million. This mainly due to the return on advertising and technology. Through reform, JD promotes information on APP, which achieves greater degree of matching in accureate information and customer demand. It also develops social commerce. JD.com gets primary and secondary entries on WeChat to increase users in low-tier cities. This increases the advertising revenue sharply. Meanwhile, technology drives down business costs, improve user experience and improve efficiency, which increases revenues remarkably. We can predict that in the next five years, the growth rate of technology service revenue will be much higher than the growth rate of revenue and become an important driver of revenue and profit growth.

Figure 4.8 Horizontal analysis of operating expenses



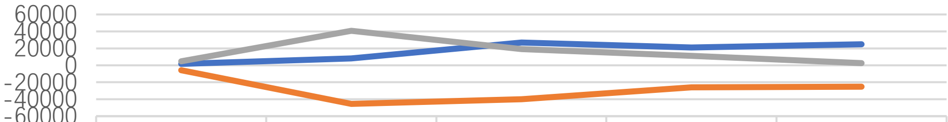
	2015-2016	2016-2017	2017-2018	2018-2019
Sales general and administration	44.31%	40.74%	27.51%	13.64%
Rearch and develoment expenditure	53.45%	49.38%	82.56%	20.38%
Other operating iterms	23.66%	35.37%	26.63%	4.07%

Source: own calculation

From Figure4.8, we can see that sales, general and administration cost rises gradually since 2015. The main reason is the market competition pressure from Alibaba and Pingduoduo in recent years. To increase active users and compete with Alibaba, it launches a program to subsidize over 10 billion yuan of subsidies and Jingxi platform, which increases sales and administration cost. But the profit system has been set up gradually due to the overall investment in logistics in the early stage. After logistics opening widely, more orders decrease the operating costs gradually. It benefit from economies of scale resulting from logistics capacity utilization and increased employee productivity. So, the growth speed goes down steadily. But the orders are not high enough to cover full cost. Logistics costs still have room to fall.

Rearch and development expenditure rises more sighnificantly, especially in 2018, which grows rate is 82.56%. In last five years, JD.com increases rearch and development expenditure in logistic network and innovation. It pays more attention on return ability in rearch and development expenditure. Also, the level of technology expenditure is higher the average level of industries.

Figure 4.9 Horizontal analysis of Cash Flow Statement (CNY in million)



	2015	2016	2017	2018	2019
Operating activities	1696	8240	26857	20881	24781
Investing activities	-5791	-45481	-39815	-26079	-25349
Financing activities	4700	40699	19235	11220	2572

Source: Own calculation

Figure 4.9 shows that investing activities are outflows. The outflow increases sharply and in 2016, it reaches the lowset point, -45,481 CNY million. Though from 2016, the spending declines rapidly but it is still high. It means that JD.com spending a lot on equipment, intangible assets and long-term investment etc. It is mainly because that JD.com is in a period of strategic expansion during these years.

Also, we can see that inflow of operating activities is higher than outflow and it goes up gradually. From 2015, it rises sharply and reaches the highest point in 2017, which is 26857 CNY million. It reflects that revenues from sales is increasing and consumers are willing to buy its products for its service and quality. Particularly in recent years, because of the construction of online shopping platform and corporation with network companies, users and income tend to stabilize.

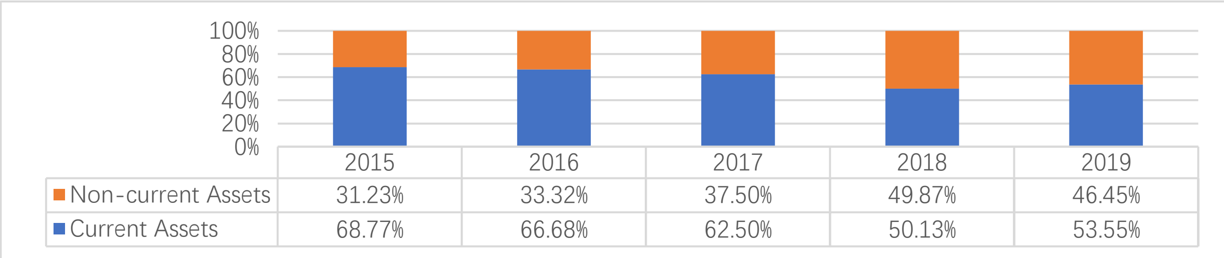
For financing activities, the inflow is adequate. It shows that shareholders and creditors are also willing to invest in JD. JD.com has been popular among growth investors because of its growth in revenues. Besides, the main reason for investment is cloud computing. JD.com has a great reputation for logistics and delivering seafood within hours. The inflow rises sharply from 2015 to 2016. But then, it declines considerably, especially in 2019.

Meanwhile, due to the small number of new projects and low cash outflows, the net cash flow of the company is mostly positive, and the operating and investment activities of the company generally show net income. It indicates that JD.com's business conditions are steadily improving in recent years.

4.1.2 Vertical common-size analysis

In this part, we will use vertical common-size analysis to evaluate the structure of financial statement of JD.com.

Figure 4.10Vertical analysis of Assets



Source: Own calculation

In Figure 4.9, we can see obviously, that the overall trend of portion of non-current assets is increasing. It rises by 15.22% to 46.45% in 2019, which is mainly due to increase of equipment and long-term investment. JD.com not only invests in logistics, but also acquires the financial shop, online banking. So, non-current assets grows sharply. JD.com should pay attention that heavy assets will more rely on turnover of capital which will lead some risks in the future.

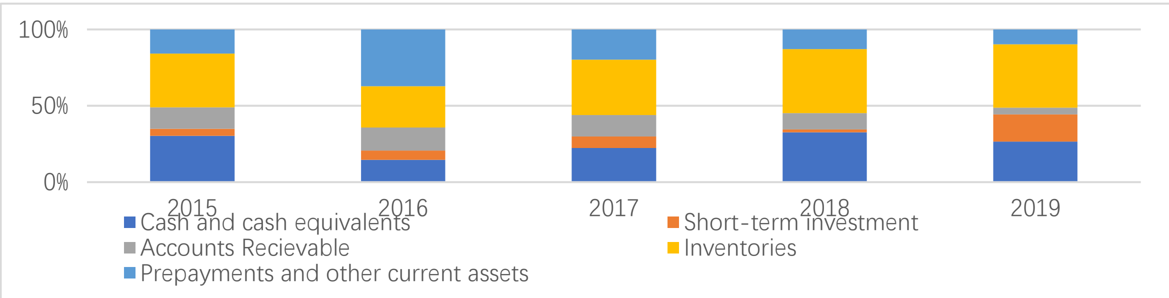
But for total assets, the portion of current assets is still more than non-current asset and the average level is above 50%. It indicates that the company has a relative good liquidity and a lower degree of risk. But because of decreasing portion of cash and inventories, the portion of current assets decreases slightly. As a whole structure of assets is some fluctuate.

Table 4.2 Vertical analysis of Current Assets

	2015	2016	2017	2018	2019
Cash and cash equivalents	30.25%	14.56%	22.33%	32.68%	26.58%
Short-term investment	4.75%	6.12%	7.47%	1.94%	17.69%
Accounts Receivable	14.01%	15.09%	14.22%	10.60%	4.45%
Inventories	35.13%	27.03%	36.25%	41.99%	41.65%
Prepayments and other current assets	15.85%	37.19%	19.73%	12.80%	9.63%
Current assets	100%	100%	100%	100%	100%

Source: Own calculation

Figure 4.11Vertical analysis of Current Assets



Source: Own calculation

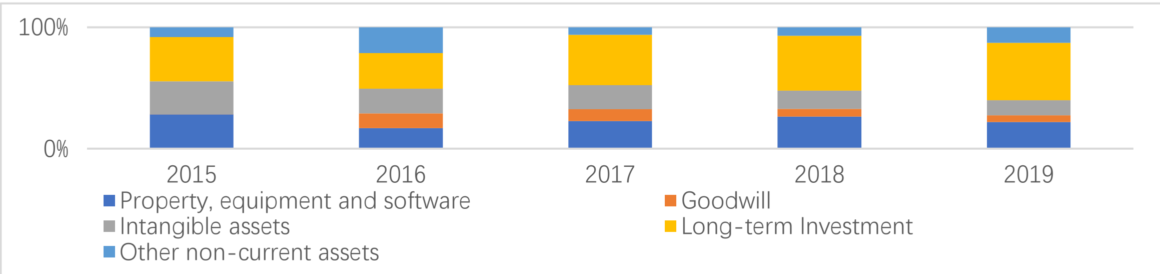
As is shown in Table 4.3 and Figure 4.10, for current assets, the portion of short-term investment increases considerably from 2015 to 2019 by 13% to 17.69%. but the share is relative low compared to other items. The share of accounts receivable rises slightly in 2016, but then it decreases remarkably to 4.45% in 2019, which has minimal impact on current assets. Similar to accounts receivable, share of prepayment increases sharply to 37.19% in 2016 and then it declines sharply. In 2019, its impact on current assets is also small. Meanwhile, cash and cash equvalents and inventories accounts for main portion of current assets. The share of cash and cash equivalent experiences a vitality. It goes down sharply in 2016 by 15% and then it goes up gradually. In 2019, the share is 26.58%, which is only after inventories.The whole trend of inventories is decreasing but the absolute change is lower than 3%. It indicates that the overall structure of current assets is some fluctuate.

Table 4.3 Vertical analysis of Non-Current Assets

	2015	2016	2017	2018	2019
Property, equipment and software	28.25%	16.96%	22.85%	26.50%	21.94%
Goodwill	0.11%	12.21%	9.64%	6.37%	5.51%
Intangible assets	27.09%	20.13%	19.91%	14.85%	12.44%
Long-term Investment	36.61%	29.36%	41.40%	45.31%	47.25%
Other non-current assets	7.94%	21.35%	6.20%	6.98%	12.87%
Non-current Assets	100%	100%	100%	100%	100%

Source: Own calculation

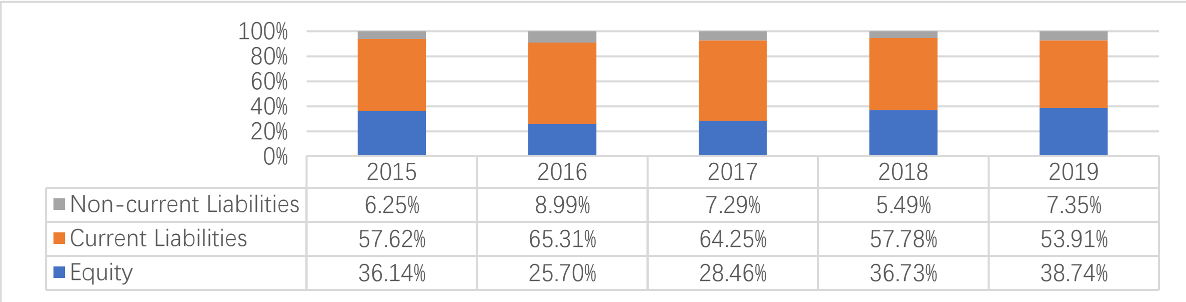
Figure 4.12Vertical analysis of Non-Current Assets



Source: Own calculation

For non-current assets, the portion of property, equipment and software is relative high among the items. It experiences a votality. It has a slight decline by 11.29% in 2016 and then increases slightly. Good will has minimal impact on non-current assets. Especially in 2019, the share is just 5.51%. The share of intangible assets declines gradually. During last five years, it goes down by 15% to 12.44%. Other non-current assets fluctuates. The share rises to 21.35% in 2016 and declines to 6.2% in 2017. The portion of long-term assets increase sharply by 10% from 2015 to 2019, which is mainly for investing in strategic expansion. It influences non-current assets most. So, the whole structure is some fluctuate.

Figure 4.13Vertical analysis of Equity and Liabilities



Source: Own calculation

Figure 4.13 shows that portion of equity is lower than liabilities all the time. It indicates that the source of capital is mainly from debt holders from 2015 to 2019. The main reason is that JD cannot use its own profits to make balance of payments, it can only rely on financing and debt to operate. In this case, financial risk of JD.com is relative high. The share goes down in 2016 to 25.7%, but then it increases slightly to 38.74% in 2019. The whole change is stable.

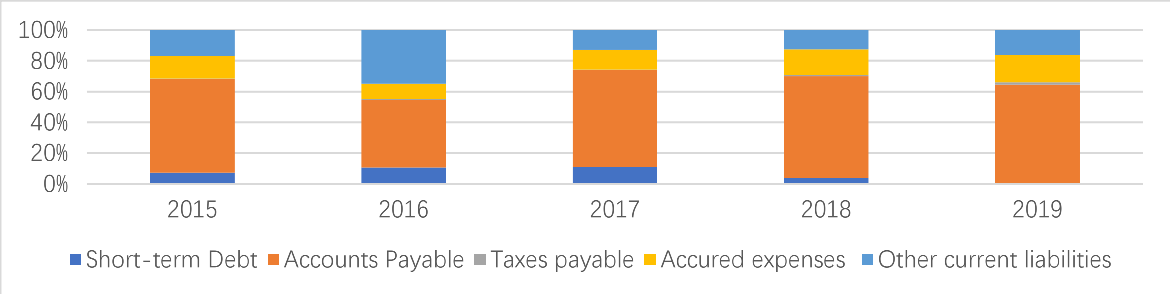
The share of current liabilities remains stable. It increases from 2015 to 2017 slightly by 6.63% and then the portion goes down. While share of current liabilities is much larger than non-current liabilities. The average share of non-current liabilities is 7%. Because JD.com applies for less loans from banks, it mainly takes equity financing as its main financing method. From its change, it is obviously that the whole structure is quite stable.

Table 4.4 Vertical analysis of Current Liabilities

	2015	2016	2017	2018	2019
Short-term Debt	7.39%	10.61%	10.90%	3.76%	0.00%
Accounts Payable	60.88%	43.95%	62.86%	66.18%	64.58%
Taxes payable	0.21%	0.54%	0.56%	0.68%	1.44%
Accrued expenses	14.65%	10.04%	12.78%	16.79%	17.61%
Other current liabilities	16.87%	34.86%	12.90%	12.59%	16.37%
Current liabilities	100%	100%	100%	100%	100%

Source: Own calculation

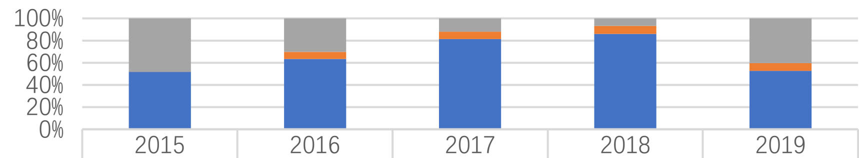
Figure 4.14 Vertical analysis of Current Liabilities



Source: Own calculation

As it is shown in table 4.4, share of short-term debt increase from 2015 to 2017 constantly to 10.9%, but then it falls to 0. As a whole, its impact on current liabilities is relatively low. Account payable accounts the largest portion of current liabilities. It declines remarkably in 2016 to 43.95%, but then it remains stable, with average level of 64%. Tax payble remains stable and we can see that it reaches the highest point in 2019, which is 1.44%. The portion of accured expenses is similar to other current liabilities. But the share of other current liabilities is more unstable compared to accured expenses. As a whole, the structure fluctuates in 2016 and then remains stable.

Figure 4.15 Vertical analysis of Non-Current Liabilities

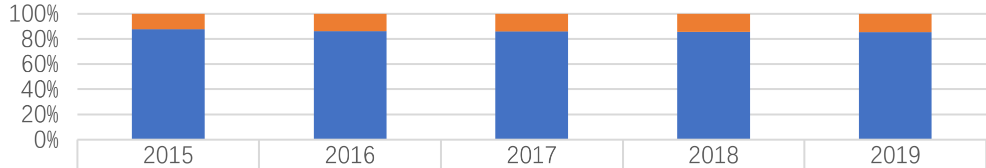


	2015	2016	2017	2018	2019
Other non-current liabilities	48.13%	30.23%	12.02%	6.73%	40.31%
Deferred income tax liabilities	0.02%	6.29%	6.57%	7.22%	7.01%
Long-term debt	51.85%	63.48%	81.42%	86.06%	52.68%

Source: Own calculation

Long-term debt accounts largest share of non-current liabilities. We can see from Figure 4.12 that portion of long-term debt goes up considerably from 51.85% to 86.06% during the period of 2015-2018. But in 2019, it declines by 33.38% to 52.68%. Deferred income tax liabilities has minimal impact on ono-current liabilities. But it increases steadily from 0.02% to 7.01%. the most unstable item is other non-current liabilities. The share of it goes down dramatically from 48.13% to 6.73% until 2018. In 2019, it goes back to the 40.31%. In general, the whole structure is some fluctuate.

Figure 4.16 Vertical analysis of Revenue

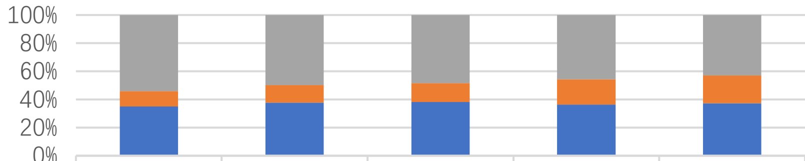


	2015	2016	2017	2018	2019
Gross profit	12.20%	13.69%	14.02%	14.28%	14.63%
Cost of revenue	87.80%	86.31%	85.98%	85.72%	85.37%

Source: Own calculation

According to Figure 4.13, it is obviously that cost of revenue accounts largest portion, which has huge impact on total revenue. In period of expension, JD.com put most of the expenditure on advertising and increasing of active users. The portion of cost of revenues drops by 2.43% to 85.37% from 2015 to 2019. The share of gross profit rises gradually and the whole change is still 2.43%. But on average, the portion of cost of revenue is four times as gross profit. the whole structure is quite stable.

Figure 4.17 Vertical analysis of Operating cost

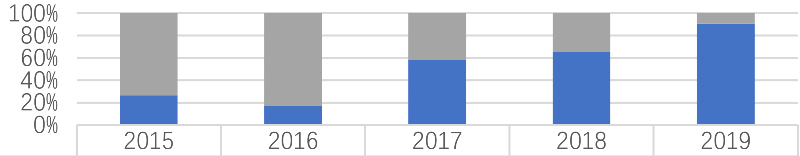


	2015	2016	2017	2018	2019
Other operating iterms	54.09%	49.86%	48.52%	45.71%	43.06%
Rearch and develoment expenditure	10.81%	12.37%	13.28%	18.04%	19.66%
Sales general and administration	35.10%	37.77%	38.20%	36.24%	37.28%

Source: Own calculation

From Figure 4.17, we can see more specifically that the portion of sales, general and administration expenses remain stable and averge rate is 36.9%. As market compettion is more intensive, the portion of sales, general and administration remains a high level for marketing campaigns, which is only after the other operating items. Also, portion of research and development expenditure is on the rise. It rises considerably by 9% to 19.66% in 2019, which is higher than the average level of industry. The trend of share of other operating items is decreasing. It declines by 10% from 2015 to 2019. As a whole, the structure is stable.

Figure 4.18 Vertical analysis of Cash inflow



	2015	2016	2017	2018	2019
Cash Inflow from Financing activities	73.48%	83.16%	41.73%	34.95%	9.40%
Cash Inflow from Investing activities	0.00%	0.00%	0.00%	0.00%	0.00%
Cash Inflow from Operating activities	26.52%	16.84%	58.27%	65.05%	90.60%

Source: Own calculation

Figure 4.15 shows that financing activities are the main source of the cash inflow in 2015 and 2016. The cash flow rises from 73.48 to 83.16. The main reason is to realize expansion in these two years, JD.com attracts more financing and continuously promote market share and capital accumulation. But since 2017, it declines sharply and achieves 9.45 in 2019.

During 2015 to 2016, the portion of cash flow from operating activities declines to 16.84%. From 2017, the portion rises sharply and reaches 90.6% in 2019. It mainly due to the increasing of users and revenue of other services. So, the whole structure is some fluctuate.

To be more specific, we can see from the cash flow statement that all the cash outflow is from investing activities. The main factor is that JD.com is in a period of strategic expansion and needs to make investment on logistics and development to remain its advantage in technonlogy and efficiency.

4.2 Financial ratio analysis

In this subchapter, we will use four main financial ratios to analysis JD.com's profitability, solvency, liquidity and activity. The relevant formulas of ratios are introduced in chaper 2 and all the data can be found in the company's financial statements.

4.2.1 Profitability ratios

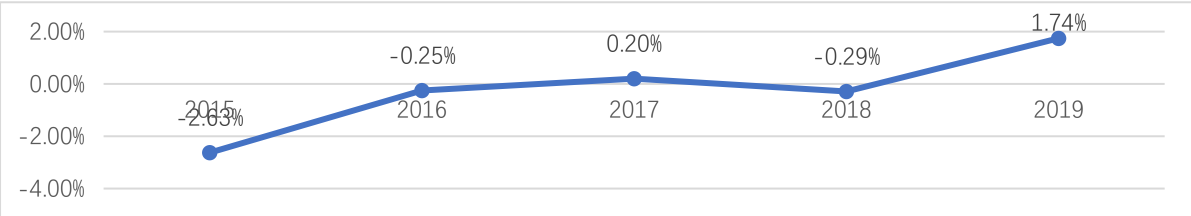
Profitability ratio assesses the company's ability togenerate profit and value for shareholders. In this part, we will calculate margin ratios and return ratios, including operating profit margin, net profit margin, return on assets and return on equity.

Table 4.5 Operating profit margin

	2015	2016	2017	2018	2019
$EBIT$	-4,757	-643	731	-1,356	10,055
$Total\ Revenues$	181,042	258,290	362,332	462,020	576,888
$\frac{EBIT}{Total\ Revenues}$	-2.63%	-0.25%	0.20%	-0.29%	1.74%

Source: Own calculation

Figure 4.19 Opertaing profit margin



Source: Own calculation

Figure 4.19 shows that overall trend of operating profit margin increases gradually. The ratio is negative in 2015, 2016 and 2018, which mainly due to negative EBIT. It is a result from increasing operation expenditure. In 2017 and 2019, the ratio is positive and is 0.2% and 1.74% respectly. It shows that operation is better and there were more and more revenues to cover operating and other expenditures. Though EBIT is positive, the ratio is still lower than 2%. It indicates that JD.com should raise its ability in generating profit. But for JD.com, the level of efficiency in operating cost control is higher than average industries. In terms of development stratage, JD.com's demand to increase market share is stronger than its pursuit of short-term profits.

Table 4.6 Net profit margin

	2015	2016	2017	2018	2019
EAT	-7,742	-2,048	-19	-2,801	11,891
$Total\ Revenues$	181,042	258,290	362,332	462,020	576,888
$\frac{EAT}{Total\ revenues}$	-4.28%	-0.79%	-0.01%	-0.61%	2.06%

Source: Own calculation

Figure 4.20 Net profit margin

Source: Own calculation

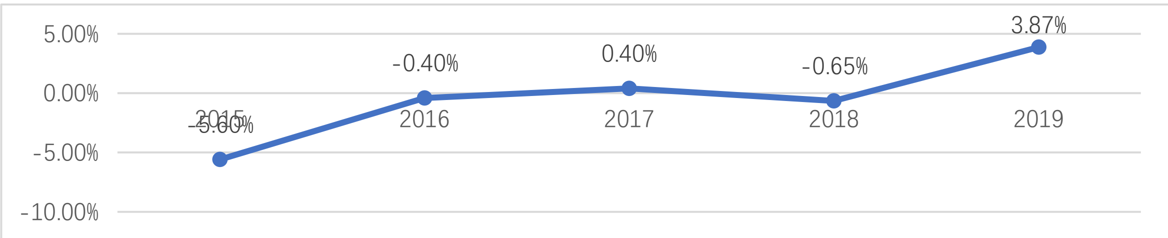
Net profit margin has similar situation with operating profit margin. The overall trend of net profit margin is increasing. It rises slightly from 2015 to 2019 by 6.34% to 2.06%, which means that the growth speed of EAT is higher than total revenues. It indicates that the profitability goes up gradually. In general, the ratio is quite small, which is lower than 3%. It indicates that the ability to generate profit is still low. But the ratio becomes positive in 2019, which means that the profit system has been set up gradually. With the formation of economies of scale and mature logistic systems, the net profit margin will increase constantly in next few years.

Table 4.7 Return on assets

	2015	2016	2017	2018	2019
$EBIT$	-4,757	-643	731	-1,356	10,055
$Total\ Assets$	85,015	160,374	184,055	209,165	259,724
$\frac{EBIT}{Total\ assets}$	-5.60%	-0.40%	0.40%	-0.65%	3.87%

Source: Own calculation

Figure 4.21 Return on assets



Source: Own calculation

Return on assets indicates that the comprehensive utilization efficiency of total assets. From Figure 4.21, we see that the overall trend of return on assets is increasing. The ratio rises from 2015 by 6% to 0.4% in 2017. Then it declines slightly to -0.65% but rises to reach 3.87%

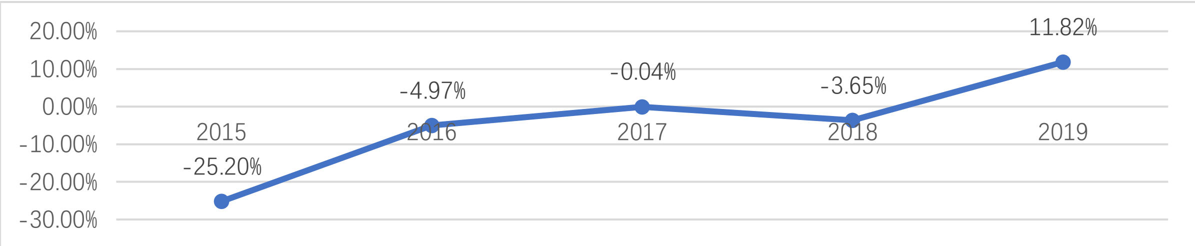
in 2019. The trend reflects the increasing speed of EBIT is gradually higher than growth of assets. EBIT turns from negative to positive in 2019. It shows that efficiency of use of assets and profitability is improving.

Table 4.8 Return on equity

	2015	2016	2017	2018	2019
EAT	-7,742	-2,048	-19	-2,801	11,891
$Equity$	30,721	41,220	52,389	76,828	100,625
$\frac{EAT}{Total\ Equity}$	-25.20%	-4.97%	-0.04%	-3.65%	11.82%

Source: Own calculation

Figure 4.22 Return on equity



Source: Own calculation

Return on equity fluctuates a lot during last five years. In 2015, ROE reaches the lowest point, which mainly due to the lowest EAT. And then it increases sharply and achieves -0.04% in 2017. The ratio declines slightly in 2018. But in 2019, it reaches the highest point and turns to positive, which indicates that in 2019, company obtain more profit through equity and has good performance in equity management. In general, the trend of ROE is rising. It means that return by investing goes up.

Finally, we can conclude from all the table and figure above. The tendency of four profitability ratios are increasing. Especially in 2019, JD.com starts to earn profit and the ratios are positive. The ratio shows that JD.com is improving its profitability. But in general, they are relatively low, which causes low profitability. Though it is decided by its expension strategy and operating model, JD.com should continue reducing operating cost and improve the efficiency of assets and equity.

4.2.2 Solvency ratios

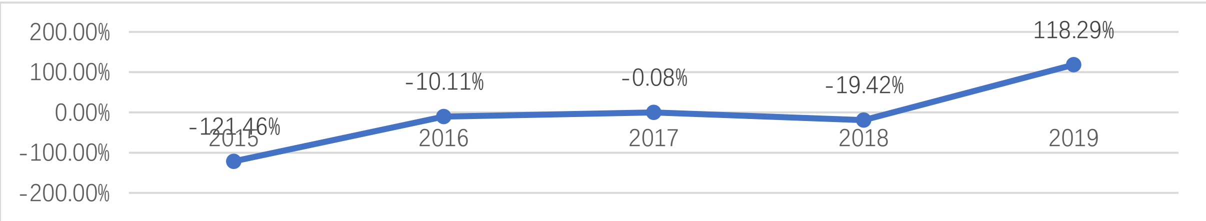
Solvency ratio measures the ability of a corporate to meet its debt obligation. In this subchapter, we will analysis solvency ratio, debt-to-equity ratio and debt service coverage ratio.

Table 4.9 Solvency ratio

	2015	2016	2017	2018	2019
$Net\ income + non - cash\ expenses$	-7,742	-2,048	-19	-2,801	11,891
$Short - term\ liabilities$	3,620	11,109	12885	4,545	0
$Long - term\ liabilities$	2,754	9,149	10923	9,875	10,052
$short - term + Long - term\ liabilities$	6,374	20,258	23,808	14,420	10,052
$\frac{Net\ income + non - cash\ expenses}{short - term + long - term\ liabilities}$	-121.46%	-10.11%	-0.08%	-19.42%	118.29%

Source: Own calculation

Figure 4.23 Solvency ratio



Source: Own calculation

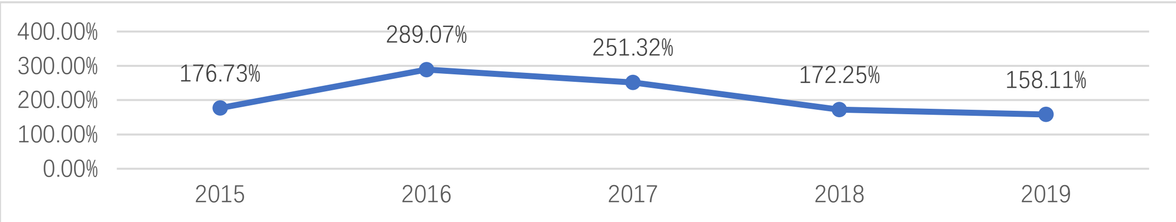
Solvency ratio fluctuates a lot during the period. In 2015, it reaches the lowest point, which is -121.46%. Then it increases sharply by about 100% in 2016. The ratio goes down in 2018 to -19.42%. But later in 2019, it reaches the highest point, which is 118.29%. It means that JD.com is improving its ability to cover its liabilities. Solvency ratio of JD.com is basically in line with the industry average. In recent years, JD.com receives higher returns on long-term debt leverage. JD.com takes into account not only the use of debt, but also prevention of financing risks and debt risks.

Table 4.10 Debt-to-equity ratio

	2015	2016	2017	2018	2019
$total\ debt$	54,294	119,154	131,666	132,337	159,099
$Equity$	30,721	41,220	52,389	76,828	100,625
$\frac{total\ debt}{Equity}$	176.73%	289.07%	251.32%	172.25%	158.11%

Source: Own calculation

Figure 4.24 Debt-to-equity ratio



Source: Own calculation

From figure 4.21, we can see that debt-to-equity ratio fluctuates a lo. During the period of 2015 to 2016, it rises from 176.73% to 289.07%. Since 2017, the trend of the ratio is decreasing. It goes down remarkably to 158.11% in 2019. It shows that the growth speed of equity is higher than total liabilities. In recent years, JD.com relys on equity capital to sustain its operations and expand weakly. The decreasing ratio shows that JD.com is using less leverage and has a stronger equity position in recent years.

Table 4.11 Debt service coverage ratio

	2015	2016	2017	2018	2019
$Net\ operating\ income$	-4,757	-643	731	-1,356	10,055
$Total\ debt\ service$	3,620	11,109	12885	4,545	0
$\frac{Net\ operating\ income}{Total\ debt\ service}$	-1.314	-0.058	0.057	-0.298	

Source: Own calculation

Figure 4.25 Debt service coverage ratio

Source: Own calculation

On a balance sheet, total debt services includes short-term debt and the current portion of long-term debt. Short-term debt in 2019 is 0. In 2019, JD.com's financing more relies on equity instead of borrowing from banks. So, we can see that there is no result in 2019.

From Figure 4.25, we can see that during 2015 to 2017, debt service ratio rises slightly from -1.314 to 0.057. in 2018, it declines to -0.298. But in general, the ratio is still lower than 1, which means JD.com short-term solvency is not particularly healthy. It should enhance its ability to generate profit to meet its debt obligation. But for JD.com, commercial credits accounts a large portion in current liabilities. It doesn't bear interest, which will not significantly increase the risk of repayment of short-term debt. So, we can see that the whole risk is controllable.

Finally, we can conclude from all the table and figure above. Solvency ratios illustrate that the JD.com has improving its ability in generating profit to meet its short-term and long-term debt, especially from 2018 to 2019.

4.2.3 Liquidity ratios

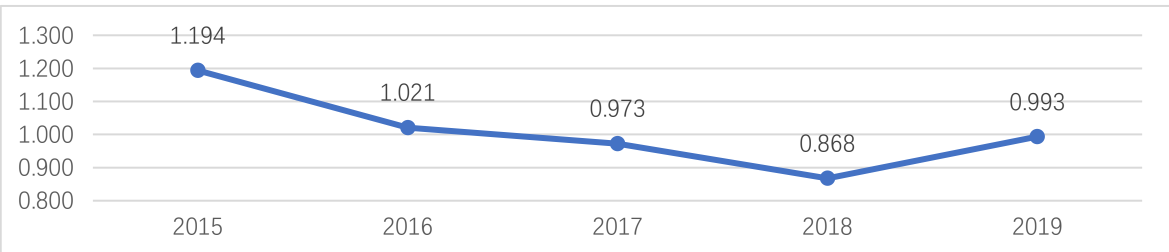
Liquidity ratios measure a firm's ability to pay debt obligations on time and its margin of safety. In this part, we will analysis current ratio, quick ratio and operating cash flow ratio.

Table 4.12 Current ratio

	2015	2016	2017	2018	2019
Current Assets	58,468	106,932	115,029	104,856	139,095
Current Liabilities	48,983	104,740	118,251	120,862	140,017
$\frac{Current\ Assets}{Current\ Liabilities}$	1.194	1.021	0.973	0.868	0.993

Source: Own calculatio

Figure 4.26 current ratio



Source: Own calculation

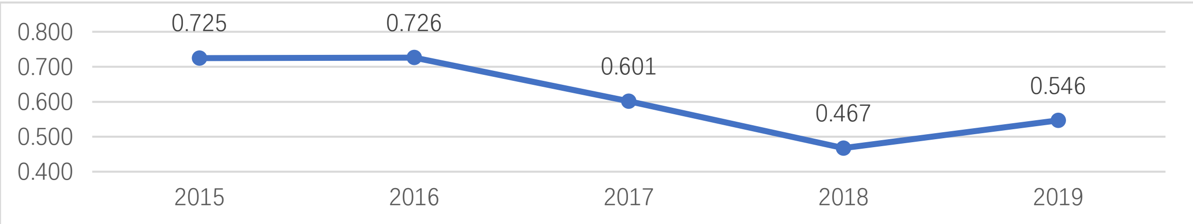
Current ratio indicates the ability to meet creditor's demand. The ratio falls during last five year. It shows that in 2015 and 2016, the ratio is 1.194 and 1.021 respectively. The ratio is above 1, which indicates that it has good operation efficiency. The ratio below 1 since 2017. It shows that current liabilities exceed current assets. It mainly because the investment in Jingdong's convenience stores and yonghui supermarkets. In 2018, the liquidity is not healthy. But from 2018, it rises gradually, which means that JD.com is improving its operation efficiency. Compared to 2016, the ability is decreasing. But in general, current raio is around 1, which means that the liquidity and the efficiency of operation is in good condition.

Table 4.13 Quick ratio

	2015	2016	2017	2018	2019
$Current\ assets$	58,468	106,932	115,029	104,856	139,095
$Inventories$	20,540	28,909	41,700	44,030	57,932
$prepaid\ expenses$	2,414	1971	2259	4325	4671
$Current\ Liabilities$	48,983	104,740	118,251	120,862	140,017
$\frac{Current\ assets - Inventories - prepaid\ expenses}{Current\ Liabilities}$	0.725	0.726	0.601	0.467	0.546

Source: Own calculation

Figure 4.27 Quick ratio



Source: Own calculation

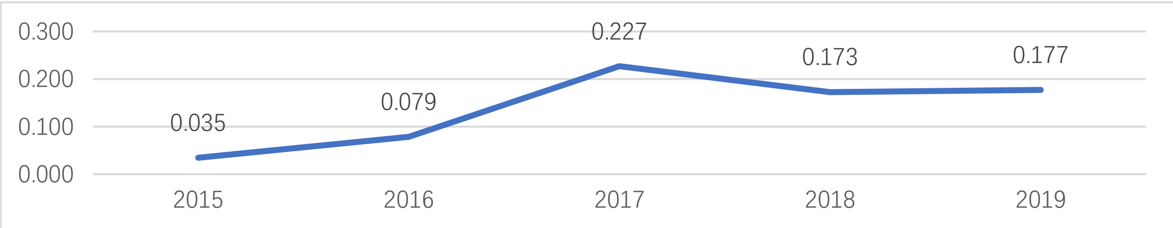
Figure 4.24 shows that quick ratio remains stable before 2016. It goes down remarkably from 2016 to 2018 to 0.467. The main reason is that the increasing speed of assets is much lower than current liabilities, which may cause financial and credit risk. In recent years, JD.com spend most of the debt on logistics investment. Then, the ratio goes up to 0.546 in 2019. But the Quick ratio of JD.com is below 1 during the period and its trend means that less liquidity to make debt payments in recent years. But for e-commerce, the quick ratio of JD.com is only after the Alibaba.

Table 4.14 Operating cash flow ratio

	2015	2016	2017	2018	2019
$Cash\ flow\ from\ operations$	1,696	8,240	26,857	20,881	24,781
$Current\ Liabilities$	48,983	104,740	118,251	120,862	140,017
$\frac{Cash\ flow\ from\ operations}{Current\ Liabilities}$	0.035	0.079	0.227	0.173	0.177

Source: Own calculation

Figure 4.28 Operating cash flow ratio



Source: Own calculation

As it is illustrated in Figure 4.28, the operating cash flow ratio rises considerably from 2015 to 2017. In 2017, it reaches the highest point, which is 0.227. The ratio has a slight decrease in 2018 and then it remains stable. The overall tendency of operating cash ratio is increasing. Due to the increasing revenue and cost control, operating cash inflow goes up gradually. Especially from 2018, JD.com carries out the reform to reorganize and optimaize Internal staff. The growing trend shows that JD.com has better short-term liquidity.

Comparing with three ratios, we can see that current ratio and quick ratio are decreasing during these years. It means that liquidity of the JD.com is lower than before, particularly compared to 2015 and 2016. But we can see that the oprating cash flow is adequate and increasing every year.

4.2.4 Activity ratios

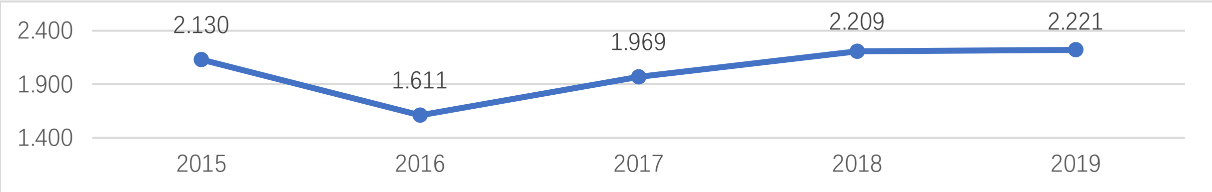
Activity ratios measure how well company manages various activities and particularly how efficiency it manages its assets. In this part, we will analysis efficiency of use of assets by calculating four ratios: total assets turnover, days sales outstanding, accounts receivable turnover and Merchandise inventory turnover.

Table 4.15 Total Assets Turnover

	2015	2016	2017	2018	2019
Revenues	181,042	258,290	362,332	462,020	576,888
Total Assets	85,015	160,374	184,055	209,165	259,724
$\frac{Revenues}{Total\ Assets}$	2.130	1.611	1.969	2.209	2.221

Source: Own calculation

Figure 4.29 Total Assets Turnover



Source: Own calculation

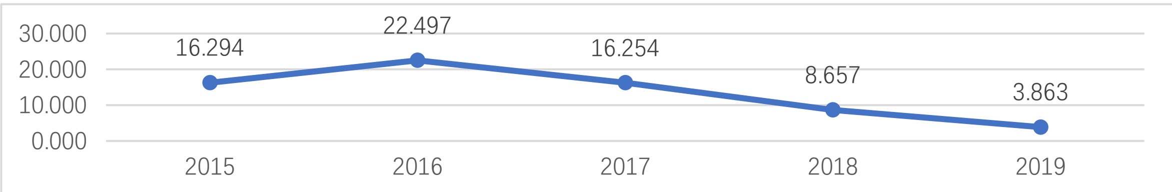
Total assets turnover goes down considerably from 2.13 to 1.611 during the 2016. And then it increases gradually from 2017. The ratio reaches the highest point in 2019, which is 2.221. It is mainly due to the rapid increase speed of revenue. The increasing tendency indicates that the assets utilization is rising. In general, total asset turnover is high, with average level of 2.208. For retail and e-commerce company, it has relatively small asset bases but high sales volume. Particularly, JD.com is self-operated. Its main income is from direct sales of goods. The revenue is high and is higher than Alibaba. So, total assets turnover is relative high.

Table 4.16 Days Sales Outstanding

	2015	2016	2017	2018	2019
Accounts Receivable	8,194	16,141	16,359	11,110	6,191
Revenues	181,042	258,290	362,332	462,020	576,888
$\frac{Accounts\ Receivable}{Revenues} \cdot 360$	16.294	22.497	16.254	8.657	3.863

Source: Own calculation

Figure 4.30 Days Sales Outstanding



Source: Own calculation

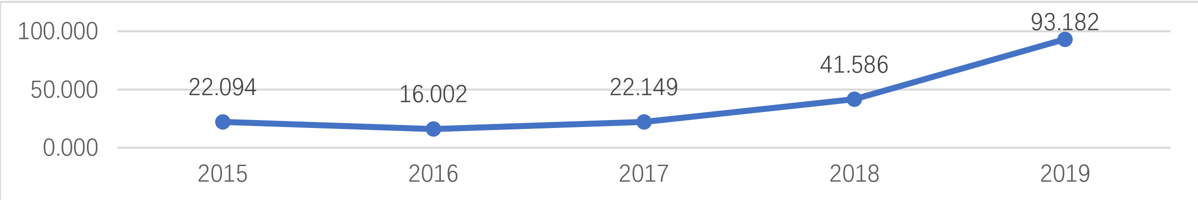
Days Sales Outstanding goes up in 2016 to 22.497. During this period, JD.com uses more time to turn its receivable into cash, which mainly due to the success of the Jingdong Baitai to increase accounts receivable. It allows customers pay for products with 30 days or by installments. Then it declines rapidly by 18.634 to 3.863. The decreasing ratio indicates the better ability to gather receivables and better liquidity. High days sales outstanding provides adequate and stable cash flow for JD.com's operation.

Table 4.17 Accounts receivable turnover

	2015	2016	2017	2018	2019
$Revenues$	181,042	258,290	362,332	462,020	576,888
$Accounts\ receivable$	8,194	16,141	16,359	11,110	6,191
$\frac{Revenues}{Accounts\ receivable}$	22.094	16.002	22.149	41.586	93.182

Source: Own calculation

Figure 4.31Accounts receivable turnover



Source: Own calculation

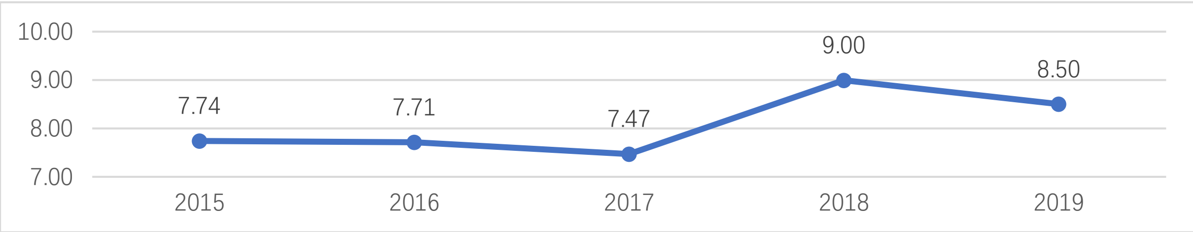
Accounts receivable turnover has opposite trend of days sales outstanding. Accounts receivable turnover has a slight decline in 2016. Since 2017, the ratio goes up remarkably. Particularly in period of 2018 to 2019, there is a rapid increase from 41.586 to 93.182. This indicates that JD.com is able to convert its receivables into cash very quickly. JD.com now supports a variety of payment methods and establishes Jingdong payment platform. The flexible methods increases the accounts receivable turnover.

Table 4.18 Merchandise inventory turnover

formula	2015	2016	2017	2018	2019
$Costs\ of\ goods\ sold$	158,960	222,935	311,517	396,066	492,467
$Average\ inventory$	10,270	24,725	35,305	42,865	50,981
$\frac{Costs\ of\ goods\ sold}{Average\ inventory}$	7.74	7.71	7.47	9.00	8.50

Source: Own calculation

Figure 4.32 Merchandise inventory turnover



Source: Own calculation

From Figure 4.32, we can see that overall trend of inventory turnover is increase. The ratio remains steady from 2015 to 2017. In 2018, it goes up considerably from 7.47 to 9. This trend means shorter period that inventory is held. In general, inventory turnover is high. JD.com adapts self-built logistica and launches smart supply chain. So, JD.com can realize effective control of delivery cycle, delivery quality and cost. Also, it relies on AI to make plans to guide automated inventory management. This shortens the inventory turnover period and improves its efficiency. The reason why JD.com is able to become the second largest player in the domestic e-commerce industry is the continuous improvement in the efficiency of supply chain and logistics.

In summary, the efficiency of JD.com' operations is relatively well. The assets utilization and abilities to gather receivables are rising. Trends of accounts receivable turnover and inventory turnover are increase. The ratios are in a dominate position in the industry.

4.2.5 Market ratios

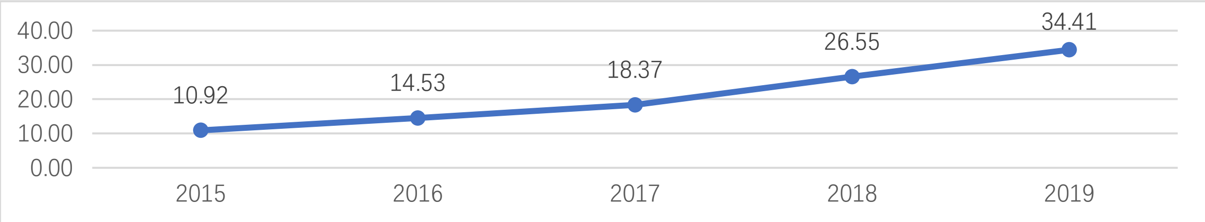
Markets ratios are used for making investment decisions in stocks of company. In this part, we will analysis book value per share ratio, dividend yield ratio, earnings per share and Price-earnings.

Table 4.19 Book value per share ratio (CNY)

	2015	2016	2017	2018	2019
$Total\ equity - preferred\ equity$	30,721	41,220	52,389	76,828	100,625
$shares\ outstanding$	2,812	2,836	2,852	2,894	2,924
$\frac{Total\ equity - preferred\ equity}{Total\ shares\ outstanding}$	10.92	14.53	18.37	26.55	34.41

Source: Own calculation

Figure 4.33 Book value per share ratio



Source: Own calculation

Figure 4.33 shows that book value per share ratio keeps increasing from 10.92 to 34.41 during last five years, which mainly due to the gradual rising of total equity. It indicates the greater the ability to create profits and the ability to resist external factors. And JD.com has been retaining earnings for these years. The advantage of this is that it can increase the rights of those who do, but it does not change the number of ordinary shares issued. JD Chairman admits that JD.com missed many development opportunities due to the development of retained earnings, but is currently trying to change this problematic cause.

Table 4.34 Dividend yield ratio

formula	2015	2016	2017	2018	2019
$Cash\ dividend\ per\ share$	-	-	-	-	-
$Market\ value\ per\ share$	196.23	180.74	294.27	148.70	250.30

Source: Own calculation

For dividend yield ratio, JD.com start earning net profit in recent years. It have not declared or paid any dividends on ordinary shares, nor have any present plan to pay any cash dividends on ordinary shares in the foreseeable future. JD.com currently intend to retain most of available funds and any future earnings to operate and expand business. So, there is no results of dividend yield ratio.

Table 4.21 Earnings per share (CNY)

formula	2015	2016	2017	2018	2019
$Net\ income - perferred\ dividends$	-7,742	-2,048	-19	-2,801	11,891
$End - of - period\ shares\ outstanding$	2,812	2,836	2,852	2,894	2,924
$\frac{Net\ income - perferred\ dividends}{End - of - period\ shares\ outstanding}$	-2.75	-0.72	-0.01	-0.97	4.07

Source: Own calculatio

Figure 4.35 Earnings per share

Source:Own calculation

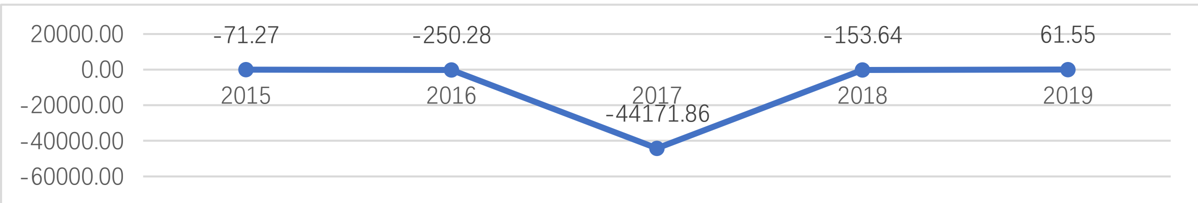
Earnings per share goes up slightly as a whole. It declines in 2018 and then rise significantly in 2019 to 4.07. It mainly because net income is relative high in 2017 and 2019. Moreover, it turns to positive in 2019. The increasing tendency illustrates that investors are willing to pay more for JD.com with higher profits. A high index indicates that the company has a good net profit. Investors believe that the company has great growth potential. With the promotion of equity financing and the expansion of the strength of JD.com, logistics delivery and advertising of Jingdong have gradually integrated into people's lives, and investor confidence has increased significantly.

Table 4.22 Price-earnings

formula	2015	2016	2017	2018	2019
$Market\ value\ per\ share$	196.23	180.74	294.27	148.70	250.30
$Earnings\ per\ share$	-2.75	-0.72	-0.01	-0.97	4.07
$\frac{Market\ value\ per\ share}{Earnings\ per\ share}$	-71.27	-250.28	-44171.86	-153.64	61.55

Source: Own calculation

Figure 4.36 Price-earnings



Source: Own calculation

From Figure 4.36, we can see that price-earnings fluctuates a lot. The ratio goes down steeply from 2015 to 2017 , and reaches the lowest point in 2017. This shows that JD.com is gradually and steadily narrowing the scale of losses and increasing profit margins. But suffered some difficulties during the period. Earnings per share has negative effect on P/E ratio from

2015 to 2017 for negative income. But then P/E ratio increases sharply and turns to positive, which is 61.55 in 2019. It means investors are expecting higher earnings growth in the future. In 2019, after JD.com reported fourth-quarter and full-year results for 2019, all the indicators beat Wall Street investors' expectations and market value per sharer increases rapidly to 250.30. The growth speed reaches 68.3% compared to 2018. The market has a better recognition of JD's performance, and JD's financing scale and efficiency have been improved.

In summary, market ratios are influenced by equity and net income a lot. As a whole, the tendency of the ratio is increasing. Especially JD.com achieves positive income since 2019, which rises the investors expectation. JD.com has a potential growth in the future and market recognition is improving.

4.3 Pyramidal decompositions

Based on DuPont analysis, we make decomposition of ROE into three parts.

$$ROE = \frac{EAT}{Rev}(net\ profit\ margin) \cdot \frac{Rev}{Assets}(assets\ turnover) \cdot \frac{Assets}{Equity}(financial\ leverage)$$

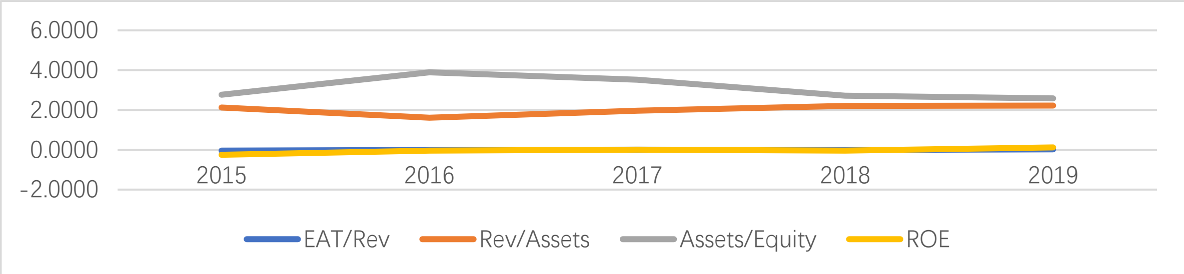
We will use the actual data of JD.com to calculate and analyze the company's ROE. Table 4.23 shows the component ratios for ROE.

Table 4.23 Decomposition of ROE

	2015	2016	2017	2018	2019
EAT/Rev	-0.0428	-0.0079	-0.0001	-0.0061	0.0206
Rev/Assets	2.1295	1.6105	1.9686	2.2089	2.2212
Assets/Equity	2.7673	3.8907	3.5132	2.7225	2.5811
ROE	-0.2520	-0.0497	-0.0004	-0.0365	0.1182

Source: Own calculation

Figure 4.37 Decomposition of ROE



Source: Own calculation

The whole trend of ROE is increase. The ratio goes up from 2015 to 2017. In 2018, it has a slight decrease, but rises to 0.1182 in 2019. From Figure 4.37, we can see that ROE is bacially in line with net profit margin, which indicates that net profit margin has the most impact on ROE. Table 4.23 shows that net profit margin has negative effect on ROE during 2015 to 2018 and it is still small in 2019. In general, net profit margin is the core of DuPont analysis. The trend illustrates that profitability of JD.com remains a low level during these years. So, to increase ROE, JD.com should care more about the EAT and continue to lower the operating cost. Financial leverage is not changing a lot but remains a high level. And it has the opposite trend to the ROE. Also, we can find that the most stable on is assets turnover, which means that company is doing good in asset management and it has minimal impact on ROE.

5 Conclusion

In the thesis, we have evaluated the financial performance of JD.com by financial analysis methodologies. The whole thesis is divided into five chapters.

In previous chapters, we have introduced the aim and basic stuctrue of thesis. In chapter 2, we introduce the basic information about the financial analysis methodologies, which is the fundamental of chapter 4. Chapter 3 shows development history and current situation of JD. By analyzing its strength and market competition, we concludes that it should strengthen brand building. Enhancing brand effect to cultivate loyal customers and increases active consumers. Also, it should establish profit model and continue to develop efficient supply chain, which can benefit its long run.

The core chapter of the thesis is chapter 4. In the following section, we will summarize the results from financial analysis of JD.com.

Firstly, we use common-size analysis to assess trends and structure of financial statement. For balance sheet, we find that current asssets accounts for larger portion in total assets than non-current assets. Also, the share of current liabilities is higher than non-cuurent liabilities and equity. The trend of all of these items is increase. For income statement, we find that revenue and gross profit keeps increasing but the growth speed goes down. Cost of revenue accounts largest portion of revenue, while sales, general and administration accounts large portion of operating expenses. For cash flow statement, oprating cash flow is adequate and its shares accounts larger portion of cash inflow since 2017. Cash flow from financing is also inflow but the trend is decline. Only cash flow from investment is outflow and the overall trend is increase.

Through financial ratio analysis, we analysis the profitability, liquidity, solvency, activity and market value of JD.com. For profitability, we can find that though the profitability ratios are generally low. It is mainly decided by its expension strategy and operating model. To keep improving profitability, JD.com should continue reducing operating cost and improve the efficiency of assets and equity. Solvency ratios indicate that JD.com has improving its ability in generating profit to meet its short-term and long-term debt. Meanwhile, liquidity ratio illustrates that the less liquidity and lower ability to repay debt than before. Its efficiency of capital utilization is well from activity ratios. The ratios are in a dominate position in the industry. Market ratios are also increasing and rise the investors' expectation constantly. The market has a better recognition of JD's performance.

In last part, we make simple decomposition of ROE. We find that net profit margin has negative effect on ROE. If JD wants to make better performance on ROE, it should try to improve its profitability. Net profit margin is the most important ratio of ROE. On the contrary, assets turnover has minimal impact on ROE.

Chaprt 5 summarizes the whole thesis. In the end, we suggest the JD.com could leverage its growing scale to improving its operating margin, which would improve its profitability over time. At present, the keys to improve the JD.com's revenue are stable retail market share, increase of profit under cost control and focus on logistics. Beyond its traditional retail business, it can put more attention on logistics, finance and healthcare ventures, which contributes a lot in 2019.

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List of abbreviations

ROA: Return on Assets

ROE: Return on Equity

EBIT: Earnings before Interest and Tax

EBT: Earning before Tax

EAT: Earning after Tax

OPM: Operating profit margin

NPM: Net profit margin

TAT: Total assets turnover

IT: Inventory turnover

ACP: Average collection period

ART: Accounts receivable turnover

BVPS: Book value per share

EPS: Earnings per share

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Ostrava dated 25.5.2020

Qiyuan Dai
Student's name and surname

List of Annexes

Annex 1: Consolidated Balance sheet of JD.com during period 2015-2019 (CNY in million)

	2015	2016	2,017	2,018	2,019
Cash and cash equivalents	17,684	15,567	25,688	34,262	36,971
Short-term investment	2,780	6,548	8,588	2,036	24,603
Accounts Receivable	8,194	16,141	16,359	11,110	6,191
Inventories	20,540	28,909	41,700	44,030	57,932
Prepayments and other current assets	9,270	39,767	22,694	13,418	13,398
Current Assets	**58,468**	**106,932**	**115,029**	**104,856**	**139,095**
Property, equipment and software	7,500	9,061	15,771	27,637	26,460
Goodwill	29	6,527	6,651	6,644	6,644
Intangible assets	7,192	10,758	13,744	15,487	15,002
Long-term Investment	9,719	15,688	28,579	47,258	56,993
Other non-current assets	2,107	11,407	4,281	7,283	15,530
Non-current Assets	**26,547**	**53,441**	**69,026**	**104,309**	**120,629**
Total Assets	**85,015**	**160,374**	**184,055**	**209,165**	**259,724**
Equity	**30,721**	**41,220**	**52,389**	**76,828**	**100,625**
Short-term Debt	3,620	11,109	12,885	4,545	0
Accounts Payable	29,819	46,036	74,338	79,985	90,428
Taxes payable	103	565	658	826	2,016
Accrued expenses	7,178	10,513	15,118	20,293	24,656
Other current liabilities	8,263	36,517	15,252	15,213	22,917
Current Liabilities	**48,983**	**104,740**	**118,251**	**120,862**	**140,017**
Long-term debt	2,754	9,149	10,923	9,875	10,052

Deferred income tax liabilities	1	908	881	828	1,338
Other non-current liabilities	2,556	4,357	1,611	772	7,692
Non-current Liabilities	**5,311**	**14,413**	**13,416**	**11,475**	**19,082**
Total liabilities	**54,294**	**119,154**	**131,666**	**132,337**	**159,099**
Total liabilities and equity	**85,015**	**160,374**	**184,055**	**209,165**	**259,724**

Annex 2: Consolidated Income statement of JD.com during period 2015-2019 (CNY in million)

	2015	2016	2017	2018	2019
Total Revenue	181,042	258,290	362,332	462,020	576,888
Cost of revenue	158,960	222,935	311,517	396,066	492,467
Gross profit	**22,082**	**35,355**	**50,815**	**65,954**	**84,421**
Sales general and administration	9,421	13,595	19,133	24,396	27,724
Research and development expenditure	2,902	4,453	6,652	12,144	14,619
Other operating items	14,516	17,950	24,299	30,770	32,023
Operating profit	**-4,757**	**-643**	**731**	**-1,356**	**10,055**
Interest Expense	72	619	964	855	725
Share of results of jointly controlled entities	-2,853	-2,782	-1,927	-1,113	-1,738
Continuing operation	-74	2,162	2,281	950	6,101
Earnings Before Tax	**-7,756**	**-1,882**	**121**	**-2,374**	**13,693**
Income Tax	-14	166	140	427	1,802
Net Income	**-7,742**	**-2,048**	**-19**	**-2,801**	**11,891**

Annex 3: Improved Cash flow statement of JD.com during period 2015-2019 (CNY in million)

	2015	2016	2017	2018	2019
Cash Flow from Operating activities	1696	8240	26857	20881	24781
Cash Flow from Investing activities	-5791	-45481	-39815	-26079	-25349
Cash Flow from Financing activities	4700	40699	19235	11220	2572